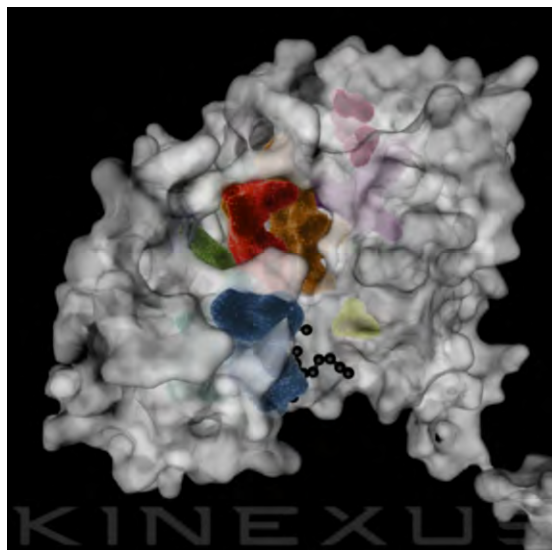


KINASE INHIBITOR

COMPOUND PROFILING SERVICE CUSTOMER INFORMATION PACKAGE

OUR CUSTOM KINASE INHIBITOR COMPOUND PROFILING SERVICE PERMIT CLIENTS TO HAVE THEIR CANDIDATE COMPOUNDS TESTED IN VITRO FOR INHIBITORY ACTIVITY TOWARDS MORE THAN 200 DIFFERENT HUMAN PROTEIN KINASES. THIS SERVICE IS IDEAL FOR ESTABLISHING THE SPECIFICITY OF A PROMISING THERAPEUTIC COMPOUND AGAINST A WIDE RANGE OF PROTEIN KINASES. THIS SERVICE INVOLVES THE MEASUREMENT OF ENZYMATIC ACTIVITIES OF PURIFIED RECOMBINANT PROTEIN KINASES IN [γ - 32 P or γ - 33 P] ATP-BASED ASSAYS.



EGF Receptor with the inhibitor Erlotinib

This information Package has been designed to assist you in using our Kinase Inhibitor Compound Profiling Service. We will endeavor to provide you with your results within three weeks of receipt of your compounds for testing. If after reviewing this information you have any questions about this service, please contact our Technical Service Representatives by calling toll free in North America 1-866-KINEXUS or (604) 323-2547 or by e-mail at "info@kinexus.ca". This information is regularly updated and available from our website at "www.kinexus.ca".



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KINASE INHIBITOR COMPOUND PROFILING SERVICE

1. INTRODUCTION

The Kinase Inhibitor Compound Profiling (KICP) Service is a convenient and cost-effective solution to assist scientists in ascertaining of the specificity of lead compounds and their mechanisms of action for drug discovery. This information is critical for the selection of better clinical candidates for clinical testing. Approximately a third of all pharmaceutical R&D is now focused on protein kinases as drug targets. Kinexus currently has over 200 human protein kinases available for screening with our KICP Service. This number will continue to increase in the near future. At least 516 human protein kinases target the phosphorylation of apparently more than 500,000 phosphorylation sites in the proteome. In view of this, it is critical to establish the specificity of any kinase drug candidate for clinical studies. The more specific the kinase inhibitors, the lower the chances of off targets that could compromise on the utility of the drug from toxicity and other undesired side-effects. This service relies on the use of gamma phosphate-radiolabeled ATP to phosphorylate peptide and recombinants protein substrates with purified and active preparations of human protein kinases. Kinexus performs the KICP Service under strict confidentiality, and all materials, information and results are used as directed by the client. This *in vitro* service from Kinexus compliments the *in vivo* compound profiling analyses that are offered with our Kinex™ antibody microarray and Kinetworks™ multi-immunoblotting services. With these proteomics services, it is feasible to determine the effects of compounds and other treatments of animals and isolated cells on the expression levels of over 190 known protein kinases and 170 other proteins as well as the status of at least 248 different phospho-sites to monitor indirectly the activities of their upstream kinases.

The KICP Service uses the most reliable direct assay of protein kinase phosphotransferase activity that is known. The methodology is based on the direct quantification of radio-labeled phosphate from ATP (gamma-³²P or gamma-³³P) on to a peptide or protein substrate of a target protein kinase. This provides for a high signal to noise detection of phosphorylation, high reproducibility, and reduces the opportunity for artifacts inherent in other methods, such as the measurement of the production of ADP or disappearance of ATP. Furthermore, the assay provides a direct measure of the effect of a compound on the enzymatic phosphotransferase activity of a target protein kinase, rather than a measure of the ability of a compound to bind near the active site of the kinase, as is performed with some other approaches to compound screening.

The preparations of recombinant protein kinases that we use in our KICP Service possess high specific activities, and generally represent full-length human clones. In some instances, we use kinases that feature activating mutations that may occur *in vivo*. But generally, the kinases are activated by endogenous phosphorylation in the baculovirus-infected insect cells or by the addition of the purified and activate upstream protein kinase. For each kinase used in the KICP Service, the assay conditions have been carefully optimized to ensure the highest levels of phosphotransferase activity. An abbreviated list of the protein kinases that are presently available with our KICP Service is provided on the next page in Table 1, and more information is provided in Appendix A. You can also download an MS-Excel spreadsheet with very detailed information on each protein kinase along with active hyperlinks to other websites from our website at http://www.kinexus.ca/services/kinase_inhibitor_profiling.php.

Table 1. Active Protein Kinases Available in the KICP Service.

Protein Kinase Name	ID Code	Protein Kinase Name	ID Code	Protein Kinase Name	ID Code	Protein Kinase Name	ID Code
Abl (Abl1)	AB01	DAPK3 (ZIPK)	DA03	MAPKAPK5	MA32	PKC θ (PRKCQ)	PK14
ACK (TNK2)	AC01	DDR2	DD02	MARK1	MA33	PKC ζ (PRKCZ)	PK15
Akt1/PKB α	AK01	DYRK1A	DY01	MARK2	MA34	PKD1 (PRKD1, PKC μ)	PK34
Akt2/PKB β	AK04	DYRK3	DY02	MARK3	MA35	PKD2 (PRKD2)	PK17
Akt3/PKB γ	AK06	eEF2K	EE01	MEK1 (MKK1, MAP2K1)	ME01	PKD3 (PRKD3)	PK35
ALK1	AL01	EphA1	EP01	MEKK2 (MAP3K2)	ME04	PKG1 α (PRKG1A)	PK19
ALK4 (ACVR1B)	AL02	EphB1	EP30	MEKK3 (MAP3K3)	ME01	PKN1	PK33
AMPK α 1/ β 1/ γ 1	AM01	EphB2	EP31	Mer (MERTK)	ME07	PKR (EIF2AK2)	EI01
AMPK α 1/ β 1/ γ 2	AM02	EphB3	EP12	Met	ME30	PLK1	PL01
AMPK α 1/ β 1/ γ 3	AM03	EphB4	EP13	MLK3 (MAP3K11)	ML04	PLK2	PL30
AMPK α 1/ β 2/ γ 1	AM04	Erk1 (MAPK3)	ER30	MNK1 (MKNK1)	MN31	PYK2 (PTK2B)	PY30
AMPK α 2/ β 1/ γ 1	AM05	Erk2 (MAPK1)	ER31	MNK2 (MKNK2)	MN31	QIK (SNF1LK2)	SN01
Arg (Abl2)	AB09	FAK (PTK2)	FA01	MRCK α (CDC42BPA)	MR30	Raf1	RA20
Ask1 (MAP3K5)	AS01	Fer	FE01	MRCK β (CDC42BPB)	MR02	Raf1 [Y340E, Y341E]	RA03
Aurora A (AurA, STK6)	AU01	Fes (Fps)	FE02	MSK1 (PRS6KA5)	MS30	Ret	RE30
Aurora B (AurB, AURKB)	AU02	FGFR1 (Flt2)	FG01	MSSK1 (STK23)	MS03	RIPK2	RI01
Aurora C (AurC, AURKC)	AU03	FGFR1 (Flt2) [V561M]	FG02	MST1 (STK4)	MS31	ROCK1	RO30
Axl	AX01	FGFR3	FG05	MST2/STK3	ST30	ROCK2 (ROK α)	RO02
BARK1 (ADRBK1, GRK2)	AD01	Fgr	FG30	MST3 (STK24)	MS32	RON (MST1R)	RO03
Btk	BT01	Fyn	FY01	NEK2	NE03	RSK1 (RPS6KA2)	RS30
CaMK1 α (CAMK1)	CA01	GPRK5 (GRK5)	GR02	NEK6	NE06	RSK2 (PRS6KA3)	RS05
CaMK1 β (PNCK)	CA02	GSK3 α	GS01	NEK7	NE30	RSK3 (RPS6KA1)	RS06
CaMK1 δ (CAMK1D)	CA03	GSK3 β	GS30	NUAK2	NU30	RSK4 (RPS6KA6)	RS07
CAMK1 γ	CA04	Hck	HC01	p38 α (MAPK14)	MA13	skMLCK (MLCK2)	ML01
CAMK2 α (CAMK2B)	CA05	HER2 (ErbB2, Neu)	ER01	p38 β (MAPK11)	MA30	Src	SR01
CaMK2 β (CAMK2B)	CA06	HER4 (ErbB4)	ER30	p38 δ (MAPK13)	MA16	SRPK1	SR30
CAMK2 γ	CA09	HIPK1 (Myak)	HI01	p38 γ (MAPK12)	MA17	SRPK2	SR31
CAMK4	CA10	HIPK4	HI30	p70S6K (RPS6KB1)	SK30	TAO1 (TAOK1)	TA30
CAMKK1 (CAMKKA)	CA12	IGF1R	IG30	p70S6Kb (RPS6KB2)	SK31	TAO2 (TAOK2)	TA31
CAMKK2	CA13	InsR	IR30	PAK1/CDC42	PA01	TAO3 (TAOK3, JIK)	TA05
CDK1 (CDC2)/CyclinA2	CD05	INSRR (IRR)	IN01	PAK2	PA30	TBK1	TB01
CDK1 (CDC2)/CyclinB1	CD31	IRAK2	IR02	PAK3	PA03	TEC	TE30
CDK2/CyclinA1	CD32	IRAK4	IR31	PAK4	PA04	TGF β R1	TG30
CDK2/CyclinA2	CD08	Itk	IT01	PAK5 (PAK7)	PA31	TGF β R2	TG31
CDK3/CyclinE1	CD33	JNK1 (MAPK8)	JN30	PBK (TOPK)	TO30	Tie2 (Tek)	TI01
CDK4/Cyclin D1	CD11	JNK2 (MAPK9)	JN31	PDGFR α	PD01	TrkA (NTRK1)	TR01
CDK4/CyclinD3	CD34	JNK3 (MAPK10)	JN32	PDGFR β	PD30	TrkB (NTRK2)	TR02
CDK5/p25	CD13	KDR (VEGFR2)	KD30	PDK1 (PDPK1)	PD31	TSSK1 (STK22D)	TS01
CDK5/p29	CD35	KHS1 (MAP4K5)	KH30	PEK (EIF2AK3)	EI02	TSSK2 (STK22B)	TS02
CDK6.CyclinD3	CD36	Kit	KI01	Pim1	PI01	TXK	TX30
CDK7/Cyclin H1/MAT1	CD17	Kit [V654A]	KI06	Pim2	PI30	TYK2	TY01
CDK9/Cyclin K	CD19	Lck	LC01	PKA α (PRKACA)	PK30	TYRO3 (RSE)	TY02
CHK1 (CHEK1)	CH01	LIMK1	LI01	PKA β (PRKACB)	PK02	WEE1	WE30
CHK2 (CHEK2)	CH02	LOK (STK10)	LO30	PKA γ (PRKACG)	PK31	Yes (Yes1)	YE30
CK2 α 1 (CSNK2A1)	CK09	LRRK2	LR30	PKC α (PRKCA)	PK32	YSK1 (STK25, SOK1)	SO01
CK2 α 2 (CSNK2A2)	CK30	Lyn A	LY01	PKC β 1 (PRKCB1)	PK06	ZAK	ZA01
CLK1	CL01	Lyn B	LY02	PKC β 2 (PRKCB2)	PK07	ZAP70	ZA30
CLK2	CL02	MAP2K1(MEK1) [S218E, S222E]	ME02	PKC δ (PRKCD)	PK34	ZC3 (MINK1)	MI01
COT (MAP3K8)	CO01	MAP2K2 (MEK2)	ME03	PKC ϵ (PRKCE)	PK09		
Csk	CS02	MAPKAPK2	MA30	PKC ζ (PRKCH)	PK11		
DAPK1	DA01	MAPKAPK3	MA31	PKC η (PRKCI)	PK12		

We provide a wide range of options to our clients with the KICP Service. Individual compounds may be profiled against a panel of protein kinase targets to establish the specificity of the compound. Alternatively, a panel of compounds may be tested against a single kinase target to identify a lead compound with the highest potency. Compounds may be tested either using a single dose or at multiple concentrations in order to allow in-depth IC determinations. In addition, the protein kinase assays can be performed under varying ATP concentrations to evaluate competition with respect to ATP. Compounds can be supplied by the client as DMSO stocks of known concentration, as solid material in vials, or in 96-well plates.

A large body of information and instruction is provided with this Kinase Inhibitor Compound Profiling Service Customer Information Package. Your careful review of this package will ensure that we can offer the highest level of quality in providing this and our other unique proteomics services to you. Should you have any questions or concerns, we would be pleased to hear from you. Thank you in advance for letting Kinexus become one of your trusted service providers.

2. QUANTITY OF COMPOUND REQUIRED

The amount of each compound required for the KICP Service depends on how many kinase activity measures are to be performed and the concentrations at which each compound will be tested. The final volume of the KICP assays are 25 μl , and the stock concentration of the compound to be tested should be at least 10-times the final concentration of the highest dose desired for KICP analysis. For example, if 100 μM is the single concentration of a compound to be tested against one kinase in triplicate, then (3 x 2.5 μl =) 7.5 μl of a 1 mM compound solution would be the minimum amount required. **However, we recommend that a minimum volume of 50 μl of 10X concentrated compound stock solution in water or 2% DMSO is provided in a 1.5 ml Eppendorf vial; please Paraffin wax wrap the closed lid for further protection. If the compound is supplied in powder form, please provide sufficient material so that the compound can be prepared at as 10X concentrated solution with a volume of at least 500 μl .**

3. KINASE ASSAY CONDITIONS

Due to the distinct protein/peptide substrate and other assay conditions for the different protein kinases, the components of the various assays are optimized for each enzyme and are not described here. If left unspecified by the client, most assays are performed for 15 minutes duration, at 30°C, with 50 μM [γ - ^{33}P]ATP in a final volume of 25 μl . The assays are typically terminated by spotting 20 μl of the reaction mixture onto a phosphocellulose P81 plate. The phosphocellulose P81 plate is washed 3 times for approximately 15 minutes each in a 1% phosphoric acid solution to remove unreacted [γ - ^{33}P]ATP. The radioactivity in the captured ^{33}P -labeled peptide/protein substrate on the P81 plate is quantified in a scintillation counter.

4. SHIPPING INFORMATION

The aforementioned procedure has been designed to reduce the use of shipping materials and courier costs, and to ensure that your precious compound samples arrive in a safe and stable form at our laboratory facilities. Note that clients are responsible for payment of courier costs. The sample vials should be sent to the address listed below by any express courier that accepts dry ice shipments if necessary. We recommend Federal

Express for shipments originating in North America, and World Express is the preferred courier choice outside of North America. Ship the samples to the following address:

Kinase Inhibitor Compound Profiling Services
Kinexus Bioinformatics Corporation
Suite 1, 8755 Ash Street
Vancouver, B.C. Canada V6P 6T3
Telephone: (604) 323-2547
Facsimile: (604) 323-2548
E-mail info@kinexus.ca

Please ensure 3 copies of a signed commercial invoice accompany your shipment which specifies your samples are non hazardous. Since the samples are not for resale, the value of your shipment should be priced at approximately \$1.00 per sample in order to avoid paying additional duties and taxes on entry into Canada. **It is highly recommended that customers e-mail their courier airway bill number and the date of departure to info@kinexus.ca so we can track your shipment in transit and ensure it arrives in a timely manner.** We will send a confirmation e-mail once your shipment arrives at our facility.

5. PRICING INFORMATION

In view of the customized nature and the opportunity for volume discounts for the KICP Service, it is necessary to obtain a quotation from Kinexus for the desired work. To obtain a quotation, clients should complete the Kinase Inhibitor Compound Profiling - Service Order Form (KICP-SOF-01) in the sections under "Customer Information" and "Requested Work and Pricing Information" up to the point indicated on this form. In addition, clients should complete the appropriate Kinase Inhibitor Compound Profiling - Service Information Forms (KICP-SIF-01A and KICO-SIF-01B). These forms should be transmitted by facsimile to 604-323-2548 or by e-mail to info@kinexus.ca attention to "KICP Service." Completion and submission of the KICP-SOF01 and KICP-SIF-01A/B forms will permit us to determine your specific needs and provide an accurate estimate of the costs.

Issued quotations are valid for 30 days from issuance. In the event that a special promotion on the KICS Service is offered at a lower price within 30 days of the receipt of Samples for KICP Service from a client, the lower promotional price will be applied at the time of billing the client.

6. FOLLOW UP SERVICES

Once you receive your Kinase Inhibitor Compound Profiling results back, you may find that your compound(s) targets additional protein kinases as perhaps even greater potency and selectivity than the intended target(s). This could offer new opportunities for development of intellectual property and clinical exploitation of your compounds. Only about 75 protein kinases are presently being targeted with drug leads in clinical trials. But, over 400 different diseases have been correlated with defects in cell signalling pathways that involve protein kinases. However, for the majority of the human protein kinases, it is unclear how they participate within cell signalling pathways, and no physiological substrates have been identified. With our unique suite of integrated systems proteomics services,

Kinexus can further assist you in your disease biomarker and therapeutic drug discovery programs in so many ways in a cost-effective and timely fashion.

For example, with our Custom Kinase Substrate Profiling Service that uses our Kinex™ 800 Antibody Microarray (KAM-1.2 chip), we can identify a panel of physiological phosphoprotein substrates for over 360 different human protein kinases. This service can further identify the actual site of phosphorylation by the target kinase as well as commercial phospho-site antibodies for its detection in follow up studies. This is extremely useful for development of even more specific *in vitro* kinase activity assays. Moreover, this aids in the identification of a panel of biomarkers for the activity of the target kinase in the tissues of animals and isolated cells treated with compounds *in vivo*.

Our Kinex™ 800 Antibody Microarray services with the KAM-1.2 chip provide both qualitative and semi-quantitative analyses of the expression and phosphorylation states of cell signalling proteins in cell and tissue lysates. This can be useful to ascertain whether a lead compound actually targets the intended kinase *in vivo*, has potentially toxic effects in living systems, and how wide spread its actions may be. The qualitative analyses from the Kinex™ services include TIFF and JPEG files of the scanned Kinex™ antibody microarray that features the detected target signalling proteins in control and experimental (e.g. drug-treated) samples artificially labeled in two distinct colours by Adobe Photoshop and presented side-by-side in a coloured overlay. The quantitative analysis of the strength of the fluorescence signals for each target protein is provided in duplicate in a Microsoft Excel spreadsheet and includes the (average) percent change from the control sample, the percent range in error, and fold-changes ratios. Because the Kinex™ services use lysates that contain non-denatured proteins, the interpretation of results with the KAM-1.2 microarray chip is complicated by the possibilities of changes in protein-protein interactions and possible cross-reactivity with off target proteins.

Kinexus offers two types of Western blotting follow-up services to cost-effectively validate the results from the KAM-1.2 microarray chip. Clients can choose the Kinetworks™ Custom KCPS 1.0 (Multi-Antibody) Protein Screen, where any 18 antibodies can be selected and we will optimize it to their model system. Alternatively, with our Kinetworks™ Custom KCSS 1.0 (Multi-Sample) Protein Screen, customers send up to 8 different samples and choose up to 3 different antibodies (provided the molecular weights are significantly separated by SDS-PAGE).

Once the results are confirmed by Western blotting, clients can correlate their own data with hundreds of other data points from hundreds of different model systems using our on-line KiNET database. For more information about this and our other bioinformatics services, please contact one of our customer service representatives at info@kinexus.ca.

7. FORMS TO BE COMPLETED

All customers are required to complete the following forms for each order placed:

- A. Kinexus Kinase Inhibitor Compound Profiling Services Agreement - Customers are required to complete and sign our standard Kinexus KICP Services Agreement before their first order can be processed. Unless otherwise specified, this Agreement is valid for all future orders with a standard term of 15 years.
- B. Service Order Form (KICP-SOF-01). The Service Order Form (SOF) allows us to track all of the requested work to be performed with your order. And your contact and billing information.
- C. Service Identification Form (KICP-SIF-01A and KICP-01B). The Service Identification Forms (SIF) permits us to determine which kinases and compounds are to be assayed. Two possible forms are provided depending on whether multiple kinases or multiple compounds are to be analyzed.
- D. Confidential Sample Description Form (KICP-CSDF-01). The Confidential Sample Description Form (CSDF) provides information on the specific compounds to be tested for safety and efficiency purposes. It is not necessary to disclose the name or structure of the compound to be analyzed.
- E. Commercial Invoice (required for all customers located outside of Canada). Two possible forms are provided depending on the stability of the compounds to be tested for shipping without freezing.

All orders with compounds should have as a minimum: 1 SOF, 1 SIF, and 1 CSDF forms completed, along with a courier airway bill and commercial invoice. A new KICP Service Agreement is not necessary if the client has previously placed an order with Kinexus and submitted a signed KICP Service Agreement at that time.

FOR ALL CUSTOMERS

A. Kinexus Kinase Inhibitor Compound Profiling Services Agreement

A Kinexus KICP Services Agreement is required to be signed before the first order can be processed.

- This Agreement is required to be signed and dated by an authorized representative, typically a Senior Officer, Senior Scientist, or Principal Investigator, before the first order can be processed, but does not have to be signed again for repeat orders. The Kinexus Service Agreement is typically valid for 15 years. If you require changes or modifications to be made to our standard Kinexus KICP Services Agreement, please email us at sales@kinexus.ca to request a Microsoft Word version of the document so your requested changes can be made directly into the agreement and emailed to us for our final approval.

B. Service Order Form (KICP-SOF-01)

Please ensure:

- Shipping address and contact name and numbers are specified
- Billing information is completed
- Any promotional vouchers or quotations are listed in the “Requested Works and Pricing Information” section
- Include a Purchase Order, Visa or MasterCard number for payment
- The form is signed and dated

C. Service Identification Form (KICP-SIF-01A and KICP-SIF-01B)

Please ensure:

- You have selected the most appropriate form for your needs. With multiple compounds and multiple kinases, it will be necessary to use multiple copies of these forms.
- In Section A, you must assign a unique KICP-SIF ID name for each separate KICP-SIF form submitted and these are all recorded on the KICP-SOF form in the “Requested Works and Pricing Information” section
- In Section B, you must calculate the total number of individual assays requested for each separate KICP-SIF form submitted and these are all recorded on the KICP-SOF form in the “Requested Works and Pricing Information” section
- For Section B of the **KICP-SIF-01A** form, you must list the “Compound ID” name on each line in the first blank column that you provided in Section A of the KICP-CSDF-01 forms that have been completed
- For Section B of the **KICP-SIF-01B** form, you must list the “Kinase Code and Name from Table 1 or Appendix A together on each line in the first blank column that you provided in Section A of the KICP-CSDF-01 forms that have been completed
- When completing Section B of either the KICP-SIF-01A or KICP-SIF-01B forms for different concentrations of compound, make sure that you include a zero concentration control. Also ensure that you specify whether the concentrations shown in the table in Section B are in μM or $\mu\text{g/ml}$.
- Complete Section D if you require an assay time different from 15 minutes
- Complete Section F if you have any special instructions, such as a different temperature from 30°C for the assay incubation temperature or a concentration of ATP different from $50 \mu\text{M}$ for use in the assays
- The form is certified correct and signed and dated

For an example, in the completion of the Section B, consider the case of where 3 kinases (i.e. CDK1/CyclinB1, ERK2 and p38 α) are to be tested against four concentrations of a compound in duplicate as well as in the absence of the compound. Section B of the KICP-SIF-01B form would be completed as follows on the next page:

C. KINASE SELECTION:

Use Appendix A of the Kinase Inhibitor Compound Profiling Customer Information Package to obtain the code (Column A) and name (Column B) of the protein kinase that will be tested for inhibition by the compounds listed in Section B. A more detailed MS-Excel spreadsheet with information about each kinase can be downloaded from the Kinexus website at www.kinexus.ca/services/kinase_inhibitor_profiling.php. For each concentration of the compound to be tested (up to 6) indicate the amount and whether this represents “µM” or “µg/ml” by ticking the appropriate box. Also indicate whether each assay is to be performed in single (“Once”), duplicate (“Dupl.”) or triplicate (“Tripl.”) measurements. Under “Subtotal” for each compound, indicate the number of individual assays that you intend to be performed.

Kinase Code + Name	Compound Final Conc. (µM) <input checked="" type="checkbox"/> or (µg/ml) <input type="checkbox"/>						Replicates			Subtotal
	Dil. 1	Dil. 2	Dil. 3	Dil. 4	Dil. 5	Dil. 6	Once	Dupl.	Tripl.	
1. CD31-CDK1 /CyclinB1	0	0.01	0.1	1.0	10		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
2. ER31 - ERK2	0	0.01	0.1	1.0	10		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
3. MA13 - p38α	0	0.01	0.1	1.0	10		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
4. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15. _____							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Total Number of Assays										30

D. Confidential Sample Description Form (KICP-CSDF-01)

For each compound submitted, please ensure the following:

- Each sample tube is labeled and properly identified with the “Client ID Name” on the form in Section A, including final concentration and volume if it is a solution or weight if it is a powder.
- Up to two different compounds can be listed on the same page. Use additional copies of this form for more compounds to be analyzed
- You have indicated whether there are any safety concerns with the compounds on this form
- The form is certified correct and signed and dated

E. Airway bill for Federal Express or any courier that you choose to ship your compounds to Kinexus

Complete the airway bill and specify:

- Priority overnight delivery
- Bill transportation charges to your institute

- Place sufficient dry ice if necessary to last several days into a Styrofoam shipping container
- Seal the edges of the Styrofoam container with tape to preserve dry ice longer
- Dry ice is a “*hazardous*” item, so ensure proper labels are attached to the outside of the box
- Do not specify Saturday delivery or hold at courier location
- For Federal Express shipments telephone 1-800-GO-FEDEX or visit them on-line at www.fedex.com or www.fedex.ca to schedule a pick up or complete your forms
- For shipments coming from within Canada or the United States, please ship any day from Monday to Wednesday. Do not ship on a Thursday or Friday.
- For international shipments coming from outside of North America, the best day to ship is on a Monday to ensure arrival in Canada for delivery later the same week
- It is recommended that customers e-mail the date of your shipment and the courier airway bill number with the number of samples to Kinexus at info@kinexus.ca to ensure we can track your package should it get held up in Canadian Customs
- For any customer located outside of Canada, 3 copies of a commercial invoice is required to accompany your shipment (see below)

FOR U.S AND INTERNATIONAL CUSTOMER ONLY

F. Commercial Invoice (not required by Canadian customers)

Please complete the attached commercial invoice with the following information:

- Date of exportation
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NOTE: Do not change the value of your shipment to more than \$1.00 per sample as this will prompt the custom brokers to charge Kinexus with a duty and GST fee on your package. Since the samples are processed internally and not returned to the customer or resold, there is no real commercial value.

The international air waybill is required for all international shipments between Canada and the rest of the world. It is also your customs declaration, which can possibly be used to clear your shipment through customs at the destination. The customs clearance process begins with the description of the air waybill. If the description is too vague or missing, customs authorities may select the shipment for further inspection. All customs paperwork, such as the commercial invoice, must have detailed commodity descriptions. A detailed description on the air waybill and other customs documentation will help speed up the clearance time and reduce your delivery time. In the event that Kinexus must go to a Canada Customs facility to claim the package of samples for client order due to inadequate completion of the commercial invoice, additional charges will apply.

Appendix A - List of Available Active Protein Kinases for Compound Profiling

This list may change depending on availability.

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (kDa)
AB01	Abl (Abl1)	Proto-oncogene tyrosine-protein kinase Abl1	ABL; JTK7; p150; c-ABL; v-abl; bcr/abl	P00519	NP_005148	Recombinant human ABL1 (27-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~135
AC01	ACK (TNK2)	Activated CDC42 kinase 1	ACK, ACK1, FLJ44758, FLJ45547, p21cdc42Hs	Q07912	NP_005772		
AK01	Akt1/PKB α	RAC-alpha serine/threonine-protein kinase	PKB; RAC; PRKBA; MGC99656; RAC-ALPH	P31749	NP_005154	Recombinant full-length human AKT1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~85
AK04	Akt2/PKB β	RAC-beta serine/threonine-protein kinase	PRKBB; PKBBETA; RAC-BETA	P31751	NP_001617	Recombinant full-length human AKT2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~85
AK06	Akt3/PKB γ	Rac-gamma serine/threonine-protein kinase	PKBG; PRKBG; STK-2; RAC-gamma; RAC-PK-gamma; DKFZP434N0250	Q9Y243	NP_005456	Recombinant full-length human AKT3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~85
AL01	ALK1	Serine/threonine-protein kinase receptor R3	ACVRL1, ACVRLK1, ALK1, HHT, HHT2, ORW2, SKR3, ALK1, TSR-I	P37023	NP_000011	Recombinant human ALK1 (144-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~64
AL02	ALK4 (ACVR1B)	Serine/threonine-protein kinase receptor R2	ACVR1B, SKR2, ACTRIB, ACVRLK4	P36896	NP_004293	Recombinant human ALK4 (150-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~64
AM01	AMPK α 1/ β 1/ γ 1 (PRKAA1/B1/G1)	5'-AMP-activated protein kinase, catalytic alpha-1 chain	Subunit A1: PRKAA1, MGC33776, MGC57364 Subunit B1: PRKAB1, AMPK, HAMPKb, MGC17785 Subunit G1: PRKAG1, AMPKG, MGC8666	Q13131	NP_996790	Recombinant full-length human AMPK (combination of A1/B1/G1 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~68k Da (A1), ~38k Da (B1), ~40k Da (G1)
AM02	AMPK α 1/ β 1/ γ 2 (PRKAA1/B1/G2)	5'-AMP-activated protein kinase, catalytic alpha-1 chain	Subunit A1: PRKAA1, MGC33776, MGC57364 Subunit B1: PRKAB1, AMPK, HAMPKb, MGC17785 Subunit G2: PRKAG2, AAKG, CMH6, WPWS, AAKG2, H91620p	Q13131	NP_996790	Recombinant full-length human AMPK (combination of A1/B1/G2 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~68k Da (A1), ~38 (B1), ~65 (G2)
AM03	AMPK α 1/ β 1/ γ 3 (PRKAA1/B1/G3)	5'-AMP-activated protein kinase, catalytic alpha-1 chain	Subunit A1: PRKAA1, MGC33776, MGC57364 Subunit B1: PRKAB1, AMPK, HAMPKb, MGC17785 Subunit G3: PRKAG3	Q13131	NP_996790	Recombinant full-length human AMPK (combination of A1/B1/G3 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~68 (A1), ~38 (B1), ~51 (G3)

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
AM04	AMPK α 1/ β 2/ γ 1 (PRKAA1/B2/G1)	5'-AMP-activated protein kinase, catalytic alpha-1 chain	Subunit A1: PRKAA1, MGC33776, MGC57364 Subunit B2: PRKAB2, MGC61468 Subunit G1: PRKAG1, AMPKG, MGC8666	Q13131	NP_996790	Recombinant full-length human AMPK (combination of A1/B2/G1 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~68 (A1), ~36 (B2), ~40 (G1)
AM05	AMPK α 2/ β 1/ γ 1 (PRKAA2/B1/G1)	5'-AMP-activated protein kinase, catalytic alpha-2 chain	Subunits A2: PRKAA2, AMPK, AMPK2, PRKAA Subunit B1: PRKAB1, AMPK, HAMPKb, MGC17785 Subunit G1: PRKAG1, AMPKG, MGC8666	P54646	NP_006243	Recombinant full-length human AMPK (combination of A2/B1/G1 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~69 (A2), ~38 (B1), and ~40 (G1).
AB09	Arg (Abl2)	Tyrosine-protein kinase Abl2	ARG; ABLL	P42684	NP_005149	Recombinant human ABL2 (38-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~132
AS01	Ask1 (MAP3K5)	Mitogen-activated protein kinase kinase kinase 5	MAP3K5; MEKK5; MAPKKK5	Q99683	NP_005914	Recombinant human ASK1(649-946) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~60
AU01	Aurora A (AurA, STK6)	Serine/threonine-protein kinase 6	AURKA, AIK, ARK1, AURA, BTAK, STK6, STK7, STK15, AURORA2, MGC34538	O14965	NP_940835	Recombinant full-length human AURORA A was expressed by baculovirus in Sf9 cells using an N-terminal GST tag.	~72
AU02	Aurora B (AurB, AURKB, INCENP)	Serine/threonine-protein kinase 12	AURKB, AIK2; AIM1; ARK2; AurB; IPL1; AIM-1; STK12	Q96GD4	NP_004208	Recombinant full-length human AURORA B was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~68
AU03	Aurora C (AurC, AURKC)	Serine/threonine-protein kinase 13	AURKC, AIE2, AIK3, AurC, STK13, aurora-C	Q9UQB9	NP_001015878	Recombinant full-length human AURORA C was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~61
AX01	Axl	Tyrosine-protein kinase receptor UFO	UFO, JTK11	P30530	NP_068713	Recombinant human AXL (473-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~55
AD01	BARK1 (ADRBK1, GRK2)	Adrenergic, beta, receptor kinase 1	BETA-ARK1, FLJ16718, GRK2	P25098	NP_001610		
BL01	Blk	B lymphoid tyrosine kinase	MGC10442	P51451	NP_001706	Recombinant full-length human BLK was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~84
BM03	Bmx	Cytoplasmic tyrosine-protein kinase BMX	ETK; PSCTK2; PSCTK3	P51813	NP_001712	Recombinant full-length human BMX was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~110
BR01	B-Raf	B-Raf proto-oncogene serine/threonine-protein kinase	BRAF1, RAFB1, B-raf 1, MGC126806, MGC138284	P15056	NP_004324	Recombinant human BRAF (416-766) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
BR04	Brk (PTK6)	Tyrosine-protein kinase 6	PTK6; FLJ42088	Q13882	NP_005966	Recombinant full-length human BRK was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~80
BT01	Btk	Tyrosine-protein kinase BTK	AT; ATK; BPK; XLA; IMD1; AGMX1; PSCTK	Q06187	NP_000052	Recombinant full-length human BTK was expressed by baculovirus in Sf9 insect cells using a N-terminal His tag.	~78
CA01	CaMK1 α (CAMK1)	Calcium/calmodulin-dependent protein kinase type 1	A1505105; D6Ertd263e	Q14012	NP_003647	Recombinant full-length mouse CAMK1 α was expressed in E-coli cells using an N-terminal GST tag.	~70
CA02	CaMK1 β (PNCK)	Calcium/calmodulin-dependent protein kinase 1beta	Punc; Bstk3; CaMK1b2; caMK1b1; Pnck	Q6P2M8		Recombinant full-length mouse CAMK1 β was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~64
CA03	CaMK1 δ (CAMK1D)	Calcium/calmodulin-dependent protein kinase I delta	RP11-462F15.1; CKLiK; CaMK1; CaMKID	Q8IU85	NP_705718	Recombinant full-length human CAMK1 δ was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~68
CA04	CAMK1 γ	Calcium/calmodulin-dependent protein kinase 1 gamma	VWS1; CLICKIII; dJ272L16.1	Q96NX5	NP_065172	Recombinant human CAMK1 γ (C-terminal truncation) protein was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. Recombinant , GST-tagged human CAMK1 γ (1-330) is also available.	~60
CA05	CAMK2 α (CAMK2B)	Calcium/calmodulin-dependent protein kinase type II alpha	CAMKA; KIAA0968	Q9UQM7	NP_057065	Recombinant full-length human CAMK2 α was expressed in Sf9 cells using an N-terminal GST tag.	~74
CA06	CaMK2 β (CAMK2B)	Calcium/calmodulin-dependent protein kinase type II beta	CAMKB, CAM2, CAMK2, MGC29528	Q13554	NP_001211	Recombinant full-length human CAMK2 β was expressed by baculovirus in Sf9 cells using an N-terminal His tag.	~58
CA09	CAMK2 γ	Calcium/calmodulin-dependent protein kinase type II gamma	CAMKG, CAMK, CAMK-II, MGC26678	Q13555	NP_751911	Recombinant human CAMK2 γ (C-terminal truncation) was expressed by baculovirus in Sf9 cells using an N-terminal GST tag.	~60
CA10	CAMK4	Calcium/calmodulin-dependent protein kinase type IV	CaMK-GR; MGC36771	Q16566	NP_001735	Recombinant full-length human CAMK4 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~79
CA12	CAMKK1 (CAMKKA)	Calcium/calmodulin-dependent protein kinase 1	CAMKKA, MGC34095, DKFZp761M0423	Q8N5S9	NP_115670	Recombinant full-length human CAMKK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~94
CA13	CAMKK2	Calcium/calmodulin-dependent protein kinase 2	CAMKK; CAMKKB; KIAA0787; MGC15254	Q96RR4	NP_006540	Recombinant full-length human CAMKK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~88

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
CD05	CDK1 (CDC2)/CyclinA2	Cell division control protein 2 homolog	CDK1: CDC2 CDC28A; MGC111195; DKFZp686L20222 CyclinA2: CCN1; CCNA	P06493	NP_001777	Recombinant full-length human CDK1 and CyclinA2 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and CyclinA2 ~78
CD31	CDK1 (CDC2)/CyclinB1	Cell division control protein 2 homolog	CDK1: CDC2 CDC28A; MGC111195; DKFZp686L20222	P06493	NP_001777	Recombinant full-length human CDK1 and CyclinB1 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and CyclinB1 ~62
CD32	CDK2/CyclinA1	Cell division protein kinase 2	CDK2: p33(CDK2)	P24941	NP_001789	Recombinant full-length human CDK2 and CyclinA1 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~58
CD08	CDK2/CyclinA2	Cell division protein kinase 2	CDK2: p33(CDK2) CyclinA2: CCN1; CCNA	P24941	NP_001789	Recombinant full-length human CDK2 and CyclinA2 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~58 and CyclinA2 ~78
CD33	CDK3/CyclinE1	Cell division protein kinase 3	CDK3: None; CyclinE1: CCNE1, CCNE	Q00526	NP_001249	Recombinant full-length human CDK3 and Cyclin E1 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~60 and CyclinE1 ~73
CD11	CDK4/Cyclin D1	Cell division protein kinase 4	CDK4: CMM3; PSK-J3; MGC14458 CyclinD1: BCL1, PRAD1, U21B31, D11S287E	P11802	NP_000066	Recombinant full-length human CDK4 and CyclinD1 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~57 and CyclinD1 ~61
CD34	CDK4/CyclinD3	Cell division protein kinase 4	CDK4: CMM3; PSK-J3; MGC14458 Cyclin D3: CCND3	P11802	NP_000066	Recombinant full-length human CDK4 and CyclinD3 were co-expressed by baculovirus in Sf9 cells using an N-terminal GST tag on both proteins.	~58 and CyclinD3 ~58
CD13	CDK5/p25	Cell division protein kinase 5	CDK5: PSSALRE; p25: CDK5R1; CDK5P35, CDK5R, NCK5A, p23, p35, p35nck5a	Q00535	NP_004926	Recombinant full-length human CDK5 and p25 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and p25 ~49
CD35	CDK5/p29	Cell division protein kinase 5	CDK5: PSSALRE	Q00535	NP_004926	Recombinant full-length human CDK5 and p29 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and p25 ~53
CD36	CDK6.CyclinD3	Cell division protein kinase 6	PLSTIRE, MGC59692 /CCND3	Q00534	NP_001250	Recombinant full-length human CDK6 and CyclinD3 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins.	~40 and CyclinD3 ~35

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
CD17	CDK7/Cyclin H1/MAT1	Cell division protein kinase 7	CDK7: CAK1, STK1, CDKN7, p39MO15; Cyclin H1: CCNH, CAK, p34, p37; MNAT1: MAT1, RNF66	P50613	NP_001790	Recombinant full-length human CDK7, Cyclin H1 and MNAT1 were co-expressed by baculovirus in Sf9 insect cells using N-terminal His tags.	~40, Cyclin H1 ~39, and MNAT1 ~37
CD19	CDK9/Cyclin K	Cell division protein kinase 9	CDC2L4, C-2k, TAK, PITALRE; CCNK, CPR4, MGC9113	P50750	NP_001252	Recombinant full-length human CDK9 and CyclinK were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~68 and CyclinK~67
CH01	CHK1 (CHEK1)	Serine/threonine-protein kinase Chk1	CHEK1	O14757	NP_001265	Recombinant full-length human CHK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. Also available with N-terminal His tag.	~82
CH02	CHK2 (CHEK2)	Serine/threonine-protein kinase Chk2	RP11-436C9.1, CDS1, CHEK2, HuCds1, LFS2, PP1425, RAD53	O96017	NP_009125	Recombinant full-length human CHK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~88
CK09	CK2 α 1 (CSNK2A1)	Casein kinase II, alpha chain	CKII; CK2A1; CKII α	P68400	NP_808227	Recombinant full-length human CK2 α 1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~70
CK30	CK2 α 2 (CSNK2A2)	Casein kinase 2, alpha prime	CKII; CK2A2; CKII α , CSNK2A1, FLJ43934	P19784	NP_001887	Recombinant full-length human CK2 α 2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~70
CL01	CLK1	Dual specificity protein kinase CLK1	CLK, STY, CLK/STY	P49759	NP_004062	Recombinant human CLK1 (129-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~66
CL02	CLK2	Dual specificity protein kinase CLK2	hCLK2, MGC61500	P49760	NP_003984	Recombinant human CLK2 (137-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~68
CO01	COT (MAP3K8)	Mitogen-activated protein kinase kinase kinase 8	MAP3K8, EST, ESTF, TPL2, Tpl-2, c-COT, FLJ10486	P41279	NP_005195	Recombinant human COT (30-397) was expressed by baculovirus in Sf9 insect cells.	~70
CS02	Csk	Tyrosine-protein kinase CSK	MGC117393	P41240	NP_004374	Recombinant full-length human CSK was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~78
DA01	DAPK1	Death-associated protein kinase 1	DAPK, DKFZp781I035	P53355	NP_004929	Recombinant human DAPK1 (1-363) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
DA03	DAPK3 (ZIPK)	Death-associated protein kinase 3	ZIP, ZIPK, FLJ36473	O43293	NP_001339	Full-length recombinant human DAPK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~79
DD02	DDR2	Discoidin domain receptor 2	TKT; MIG20a; NTRKR3; TYRO10	Q16832	NP_001014796	Recombinant human DDR2 (467-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~70

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
DY01	DYRK1A	Dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 1A	DYRK, DYRK1, HP86, MNB, MNBH	Q13627	NP_569120		
DY02	DYRK3	Dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3	DYRK5, RED, REDK, hYAK3-2	O43781	NP_003573		
EE01	eEF2K	Eukaryotic elongation factor-2 kinase	HSU93850, MGC45041, eEF-2K	O00418	NP_037434		
EP01	EphA1	Ephrin type-A receptor 1	EPH, EPHT, EPHT1	P21709	NP_005223	Recombinant mouse EPHA1 (569-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71
EP30	EphB1	Ephrin type-B receptor 1	Elk, Net, Cek6, Elkh, Hek6, EPHT2, AW488255, 9330129L11	P54762	NP_004432	Recombinant mouse EPHB1 (591-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~62
EP31	EphB2	Ephrin type-B receptor 2	DRT, ERK, CAPB, Hek5, PCBC, EPHT3, Tyro5, MGC87492	P29323	NP_059145	Recombinant human EPHB2 (570-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~66
EP12	EphB3	Ephrin type-B receptor 3	ETK2, HEK2, Cek10, Mdk5, TYRO6	P54753	NP_004434	Recombinant human EPHB3 (585-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~68
EP13	EphB4	Ephrin type-B receptor 4	HTK, MYK1, TYRO11, Mdk2	P54760	NP_004435	Recombinant human EPHB4 (561-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~50
ER30	Erk1 (MAPK3)	Mitogen-activated protein kinase 3	MAPK3; PRKM3; P44ERK1; P44MAPK; HS44KDAP; HUMKER1A; MGC20180	P27361	AAA36142.1	Recombinant full-length, tag-free human ERK1 was expressed in Sf9 cells and activated by active MEK1 in vitro.	~44
ER31	Erk2 (MAPK1)	Mitogen-activated protein kinase 1	MAPK1, P42MAPK, MAPK2, PRKM2, PRKM1, p41mapk, ERT1, p40, p41, ERK	P28482	NP_002736	Recombinant full-length human ERK2 was expressed by E. coli cells using an N-terminal GST tag and activated by MEK1 in vitro.	~68
FA01	FAK (PTK2)	Focal adhesion kinase 1	PTK2, FADK, FAK1, pp125FAK	Q05397	NP_722560	Recombinant human FAK (393-698) was expressed in Sf9 insect cells using an N-terminal His tag.	~35
FE01	Fer	Proto-oncogene tyrosine-protein kinase Fer	Fert, Fert2, AV082135, C330004K01Rik	P16591	NP_005237	Recombinant mouse FER (542-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~59
FE02	Fes (Fps)	Proto-oncogene tyrosine-protein kinase Fes/Fps	Fps	P07332	NP_001996	Recombinant full-length human FES was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~125
FG01	FGFR1 (Flt2)	Basic fibroblast growth factor receptor 1	CEK; FLG; FLT2; KAL2; BFGFR; CD331; FGFBR; HBGFR; N-SAM; C-FGR	P11362	NP_000595	Recombinant human FGFR1 (399-822) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
FG02	FGFR1 (Flt2) [V561M]	Basic fibroblast growth factor receptor 1	FLT2, CEK, FLG, KAL2, BFGFR, C-FGR, CD331, N-SAM	P11362	NP_000595	Recombinant human FGFR1 (399-822; V561M) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~75
FG05	FGFR3	Fibroblast growth factor receptor 3	ACH, CEK2, JTK4, CD333, HSFGR3EX	P22607	NP_000133	Recombinant human FGFR3 (397-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73
FG30	Fgr	Proto-oncogene tyrosine-protein kinase Fgr	SRC2, c-fgr, c-src, FLJ43153, MGC75096, p55c-fgr, p58c-fgr	P09769	NP_005239	Recombinant full-length human FGR was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~86
FL30	Flt1	Vascular endothelial growth factor receptor 1 [Precursor]	FLT, VEGFR1	P17948	NP_002010	Recombinant human FLT1 (784-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~94
FL02	Flt3	FL cytokine receptor	FLK2, STK1, CD135	P36888	NP_004110	Recombinant human FLT3 (571-993) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~73
YY30	Fms (CSF1R)	Macrophage colony stimulating factor 1 receptor	CSF1R, CSFR, FIM2, C-FMS, CD115	P07333	NP_005202	Recombinant human FMS (539-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~76
FR30	FRK	Fyn-related kinase	GTK; RAK; PTK5	P42685	NP_002022	Recombinant human FRK (208-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~60
FY01	Fyn	Fyn oncogene related to Src, Fgr, Yes	RP1-66H14.1, MGC45350, SLK, SYN	P06241	NP_002028		
GR02	GPRK5 (GRK5)	G protein-coupled receptor kinase 5	GPRK5	P34947	NP_005299	Recombinant full-length human GRK5 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~95
GS01	GSK3 α	Glycogen synthase kinase-3 alpha	GSK3 alpha	P49840	NP_063937	Recombinant full-length human GSK3 α was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~81
GS30	GSK3 β	Glycogen synthase kinase-3 beta	GSK3 beta	P49841	NP_002084	Recombinant full-length human GSK3 β was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~73
HC01	Hck	Hemopoietic cell kinase	JTK9	P08631	NP_002101	Recombinant human HCK (230-497) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~57
ER01	HER2 (ErbB2, Neu)	v-erb-b2 erythroblastic leukemia viral oncogene homologue 2	CD340, HER-2, HER-2/neu, NEU, NGL, TKR1	P04626	NP_004439		
ER30	HER4 (ErbB4)	Receptor tyrosine-protein kinase erbB4	HER4, MGC138404, p180erbB4	Q15303	NP_005226	Recombinant human ErbB4 (682-993) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~57

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
HI01	HIPK1 (Myak)	Homeodomain-interacting protein kinase 1	Myak, Nbak2, KIAA0630, MGC26642, MGC33446, MGC33548	Q86Z02	NP_938009	Recombinant human HIPK1 (156-555) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
HI30	HIPK4	Homeodomain interacting protein kinase 4	FLJ32818	Q8NE63		Recombinant full-length human HIPK4 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
IG30	IGF1R	Insulin-like growth factor I receptor	CD221, IGFIR, JTK13, MGC142170, MGC142172	P08069	NP_000866	Recombinant human IGF1R (960-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~53
IR30	InsR	Insulin receptor	HHF5, CD220	P06213	NP_000199	Recombinant human InsR (1011-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~70
IN01	INSRR (IRR)	Insulin receptor-related protein	IRR	P14616	NP_055030	Recombinant human IRR (945-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~65
IR02	IRAK2	Interleukin-1 receptor-associated kinase-like 2	IRAK-2, MGC150550	O43187	NP_001561	Recombinant full-length human IRAK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~103
IR31	IRAK4	Interleukin-1 receptor-associated kinase 4	IPD1, REN64, NY-REN-64	Q9NWZ3	NP_057207	Recombinant full-length human IRAK4 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~81
IT01	Itk	Tyrosine-protein kinase Itk/Tsk	EMT, LYK, PSCTK2, MGC126257, MGC126258	Q08881	NP_005537	Recombinant human ITK (352-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~53
JN30	JNK1 (MAPK8)	Mitogen-activated protein kinase 8	JNK, PRKM8, SAPK1, A1849689, JNK1A2, JNK21B1/2	P45983	NP_002741	Recombinant full-length mouse JNK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71
JN31	JNK2 (MAPK9)	Mitogen-activated protein kinase 9	JNK-55, JNK2, JNK2A, JNK2ALPHA, JNK2B, JNK2BETA, PRKM9, SAPK, p54a, p54aSAPK	P45984	NP_002743		
JN32	JNK3 (MAPK10)	Mitogen-activated protein kinase 10	FLJ12099, FLJ33785, JNK3, JNK3A, MGC50974, PRKM10, p493F12, p54bSAPK	P53779	NP_002744		
KD30	KDR (VEGFR2)	Kinase insert domain receptor	FLK1, VEGFR, VEGFR2	P35968	NP_002244	Recombinant human KDR (789-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
KH30	KHS1 (MAP4K5)	Mitogen-activated protein kinase kinase kinase kinase 5	MAP4K5, KHS, GCKR, MAPK5K5	Q9Y4K4	NP_006566	Recombinant full-length human KHS1 was expressed by baculovirus in Sf9 insect cells using an N-terminal tag.	~135

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
KI01	Kit	Mast/stem cell growth factor receptor	PBT, SCFR, CD117	P10721	NP_000213	Recombinant human c-KIT (544-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~73
KI06	Kit [V654A]	Mast/stem cell growth factor receptor	PBT, SCFR, CD117	P10721	NP_000213	Recombinant human c-KIT (544-end, V654A) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73
LC01	Lck	Proto-oncogene tyrosine-protein kinase Lck	YT16, p56lck, pp58lck	P06239	NP_005347	Recombinant full-length human LCK was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~84
LI01	LIMK1	LIM domain kinase 1	LIMK	P53667	NP_002305		
LO30	LOK (STK10)	Serine/threonine-protein kinase 10	STK10, PRO2729	O94804	NP_005981	Recombinant human LOK (1-348) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~65
LR30	LRRK2	Leucine-rich repeat kinase 2	AURA17, DARDARIN, PARK8, RIPK7, ROCO2	Q5S007	NP_940980.3		
LY01	Lyn A	Tyrosine-protein kinase Lyn	JTK8, FLJ26625	P07948	NP_002341	Recombinant full-length human LYN A was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~81
LY02	Lyn B	v-yes-1 Yamaguchi sarcoma viral related oncogene homolog	JTK8, FLJ26625, p65	P07948	NP_002341	Recombinant full-length human LYN B was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~85
ME02	MAP2K1(MEK1) [S218E, S222E]	Dual specificity mitogen-activated protein kinase 1	MAP2K1, MKK1, MAPKK1, PRKMK1	Q02750	NP_002746	Recombinant full-length mouse MEK1 (S218E, S222E) was expressed in E. coli cells using a N-terminal GST tag.	~69
ME03	MAP2K2 (MEK2)	Dual specificity mitogen-activated protein kinase 2	MAP2K2, MKK2, PRKMK2, MAPKK2	P36507	NP_109587	Recombinant full-length human MEK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
MA30	MAPKAPK2	Mitogen-activated protein kinase-activated protein kinase 2		P49137	NP_004750	Recombinant human MAPKAPK2 (46-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~68
MA31	MAPKAPK3	Mitogen activated protein kinase activated protein kinase 3	3PK, MAPKAP3, 3pK	Q16644	NP_004626	Recombinant full-length human MAPKAPK3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~69
MA32	MAPKAPK5	Mitogen-activated protein kinase-activated protein kinase 5	PRAK	Q8IW41	NP_620777		
MA33	MARK1	MAP/microtubule affinity-regulating kinase 1	MARK, KIAA1477, MGC126512, MGC126513	Q9P0L2	NP_061120	Recombinant full-length human MARK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~125
MA34	MARK2	MAP/microtubule affinity-regulating kinase 2	EMK1, MGC99619, PAR-1, Par1b, ELKL	Q7KZ17	NP_059672		

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
MA35	MARK3	Microtubule affinity-regulating kinase 3	KP78, CTAK1, PAR1A	P27448	NP_002367	Recombinant full-length human MARK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
ME01	MEK1 (MKK1, MAP2K1)	Dual specificity mitogen-activated protein kinase 1	MAP2K1, MKK1, MAPKK1, PRKMK1	Q02750	NP_002746	Recombinant full-length human MEK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~72
ME04	MEKK2 (MAP3K2)	Mitogen-activated protein kinase (MAPK) kinase kinase 2	MAP3K2, MEKK2B	Q9Y2U5	NP_006600	Recombinant full-length human MEKK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~115
ME01	MEKK3 (MAP3K3)	Mitogen-activated protein kinase kinase kinase 3	MAP3K3, MAPKKK3	Q99759	NP_002392	Recombinant full-length human MEKK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~105
ME07	Mer (MERTK)	Proto-oncogene tyrosine-protein kinase Mer	MER, MERTK, MGC133349	Q12866	NP_006334	Recombinant human MERTK (578-872) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~58
ME30	Met	Hepatocyte growth factor receptor	HGFR	P08581	NP_000236	Recombinant rat MET (958-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~74
ML04	MLK3 (MAP3K11)	Mitogen-activated protein kinase kinase kinase 11	MGC17114, MLK-3, MLK3, PTK1, SPRK	Q16584	NP_002410		
MN31	MNK1 (MKNK1)	MAP kinase interacting serine/threonine kinase 1	RP11-49P4.3	Q9BUB5	NP_003675		
MN31	MNK2 (MKNK2)	MAP kinase-interacting kinase 2	MKNK2, GPRK7	Q9HBH9	NP_060042	Recombinant full-length human MNK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~74
MR30	MRCK α (CDC42BPA)	Myotonic dystrophy kinase-related Cdc42-binding kinase alpha	CDC42BPA, MRCK, PK428, FLJ23347, KIAA0451, DKFZp686L1738, DKFZp686P1738	Q5VT25	NP_003598	Recombinant human MRCK α (1-473) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag	~73
MR02	MRCK β (CDC42BPB)	Myotonic dystrophy kinase-related Cdc42-binding kinase beta	CDC42BPB, KIAA1124	Q9Y5S2	NP_006026	Recombinant human MRCK β (1-473) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73
MS30	MSK1(PRS6KA5)	Mitogen- and stress-activated protein kinase 1	RPS6KA5, RLPK, MSPK1, MGC1911	O75582	NP_004746	Recombinant full-length human MSK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~120
MS03	MSSK1 (STK23)	Serine/threonine-protein kinase 23	STK23, SRPK3, SFRS protein kinase 3, MGC102944	Q9UPE1	NP_055185	Recombinant full-length human MSSK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~98
MS31	MST1 (STK4)	Mammalian Sterile 20-like kinase 1	KRS2, YSK3, DKFZp686A2068, STK4	Q13043	NP_006273	Recombinant full-length human MST1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~83

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
ST30	MST2/STK3	Serine/threonine kinase 3	KRS1; MST2; FLJ90748	Q13188	NP_006272	Recombinant full-length human STK3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~87
MS32	MST3 (STK24)	Mammalian Sterile 20-like kinase 3	STK24, MST-3, STK3, MST3B, RP11-111L24.5	Q9Y6E0	NP_003567	Recombinant human MST3 (1-311) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
MS07	MST4	Mammalian Sterile 20-like kinase 4	MASK, RP6-213H19.1	Q9P289	NP_057626	Recombinant full-length human MST4 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~72
MU01	MUSK	Muscle, skeletal receptor tyrosine protein kinase	MGC126323, MGC126324	O15146	NP_005583	Recombinant human MUSK (519-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
MY31	MYO3 β	Myosin IIIB	Myosin IIIB	Q8WXR4	NP_620482	Recombinant Human MYO3 β (1-326) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
NE03	NEK2	Serine/threonine-protein kinase Nek2	NLK1, HsPK21, NEK2A	P51955	NP_002488	Recombinant full-length human NEK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~76
NE06	NEK6	NimA-related protein kinase 6	SID6-1512	Q9HC98	NP_055212	Recombinant full-length human NEK6 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
NE30	NEK7	NimA-related protein kinase 7		Q8TDX7	NP_598001	Recombinant full-length human NEK7 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
NU30	NUAK2	NUAK family, SNF1-like kinase, 2	DKFZp434J037, DKFZp686F01113, FLJ90349, SNARK	Q9H093	NP_112214		
MA13	p38 α (MAPK14)	Mitogen-activated protein kinase 14	CSBP1, CSBP2, CSPB1, PRKM14, PRKM15, SAPK2A, MAPK14, RK, p38, EXIP,	Q16539	NP_001306	Recombinant full-length human p38alpha was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~67
MA30	p38 β (MAPK11)	Mitogen-activated protein kinase 11	MAPK11, SAPK2, p38-2, PRKM11, SAPK2B, p38b, P38b2	Q15759		Recombinant full-length human p38beta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71
MA16	p38 δ (MAPK13)	Mitogen-activated protein kinase 13	SAPK4, PRKM13, MAPK13, MGC99536	O15264	NP_002745	Recombinant full-length human p38delta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71
MA17	p38 γ (MAPK12)	Mitogen-activated protein kinase 12	ERK3, ERK6, SAPK3, PRKM12, MAPK12	P53778	NP_002960	Recombinant full-length human p38gamma was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (kDa)
SK30	p70S6K (RPS6KB1)	Ribosomal protein S6 kinase 1	S6K, PS6K, S6K1, STK14A, RPS6KB1, p70-alpha, p70(S6K)-alpha	P23443	NP_003152	Recombinant full-length human p70S6K was expressed by baculovirus in Sf9 insect cells using a N-terminal His tag.	~76
SK31	p70S6Kb (RPS6KB2)	Ribosomal protein S6 kinase, 70kDa, polypeptide 2	RPS6KB2, STK14B, KLS, P70-beta, P70-beta-1, P70-beta-2, S6K2, p70(S6K)-beta, S6K-beta2, SRK	Q9UBS0	NP_003943	Recombinant full-length human p70S6Kb was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~85
PA01	PAK1/CDC42	Serine/threonine-protein kinase PAK 1	PAKalpha, MGC130000, MGC130001	Q13153	NP_002567	Recombinant full-length human PAK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag. Combined with Cdc42 in assays.	~96
PA30	PAK2	p21 protein (Cdc42/Rac)-activated kinase 2	PAK65, PAKgamma, S6/H4 kinase	Q13177	NP_002568		
PA03	PAK3	Serine/threonine-protein kinase PAK3	Stk4, mPAK-3, Pak65beta, Pak65alpha	O75914	NP_002569	Recombinant full-length mouse PAK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~89
PA04	PAK4	Serine/threonine-protein kinase PAK4		O96013	NP_005875	Recombinant full-length human PAK4 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~90
PA31	PAK5 (PAK7)	Serine/threonine-protein kinase PAK 7	PAK5, KIAA1264, MGC26232	Q9P286	NP_065074	Recombinant full-length human PAK7 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~130
TO30	PBK (TOPK)	T-lymphokine-activated killer cell-originated protein kinase	SPK, Nori-3, FLJ14385	Q96KB5	NP_060962	Recombinant full-length human TOPK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~68
PD01	PDGFR α	Platelet-derived growth factor receptor alpha	CD140A, PDGFR2, MGC74795, Rhe-PDGFR	P16234	NP_006197	Recombinant human PDGFR α (550-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~100
PD30	PDGFR β	Platelet-derived growth factor receptor beta	JTK12, PDGFR, CD140B, PDGFR1	P09619	NP_002600	Recombinant human PDGFRbeta (557-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~104
PD31	PDK1 (PDPK1)	3-Phosphoinositide-dependent protein kinase 1	PRO0461, PDPK1, MGC20087, MGC35290, PkB-like, PkB-like 1	O15530	NP_002604	Recombinant full-length human PDK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal His tag.	~67
EI02	PEK (EIF2AK3)	Eukaryotic translation initiation factor 2-alpha kinase 3	DKFZp781H1925, HRI, PEK, PERK, WRS	Q9NZJ5	NP_004827		
PI01	Pim1	Proto-oncogene serine/threonine-protein kinase Pim-1	PIM	P11309	NP_002639	Recombinant full-length human PIM1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~62

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
PI30	Pim2	Serine/threonine-protein kinase Pim2		Q9P1W9	NP_006866	Recombinant full-length human PIM2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~61
PK30	PKA α (PRKACA)	cAMP-dependent protein kinase, alpha-catalytic subunit	PKAa, cAPKa, MGC48865, MGC102831	P17612	NP_002721	Recombinant full-length human PKAalpha was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~69
PK02	PKA β (PRKACB)	cAMP-dependent protein kinase, beta-catalytic subunit	PKAb, cAPKb, MGC9320, MGC41879, DKFZp78112452	P22694	NP_891993	Recombinant full-length human PKAcbeta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~65
PK31	PKA γ (PRKACG)	cAMP-dependent protein kinase, gamma-catalytic subunit	KAPG, PKAr, cAPKr	P22612	NP_002723	Recombinant full-length human PKAcgamma was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~65
PK32	PKC α (PRKCA)	Protein kinase C, alpha type	AAG6, PKCA, PRKCA, PRKACA, MGC129900, MGC129901	P17252	NP_002728	Recombinant full-length human PKCalpha was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~103
PK06	PKC β 1 (PRKCB1)	Protein kinase C, beta	PKCB; PRKCB; PRKCB2; MGC41878; PKC-beta	P05771	NP_002729	Recombinant full-length human PKCbeta I was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~102
PK07	PKC β 2 (PRKCB2)	Protein kinase C, beta type	PRKCB1, PKCB2, PRKCB1, PRKCB (X07109)	P05771	NP_002729	Recombinant full-length human PKCbeta II was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~105
PK34	PKC δ (PRKCD)	Protein kinase C, delta	PRKCD, MAY1, MGC49908, nPKC-delta	Q05655	NP_006245	Recombinant full-length human PKCdelta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~104
PK09	PKC ϵ (PRKCE)	Protein kinase C, epsilon type	PRKCE, MGC125656, MGC125657, nPKC-epsilon	Q02156	NP_005391	Recombinant full-length human PKCepsilon was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~110
PK10	PKC γ (PRKCG)	Protein kinase C, gamma type	PKCC, PKCG, SCA14, MGC57564, PKC-gamma, PRKCG	P05129	NP_002730	Recombinant full-length human PKCgamma was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~105
PK11	PKC η (PRKCH)	Protein kinase C, eta	PKCL, PKC-L, PRKCL, MGC5363, MGC26269, nPKC-eta, PRKCH	P24723	NP_006246	Recombinant full-length human PKCeta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~103
PK12	PKC ι (PRKCI)	Protein kinase C, iota type	PRKCI, DXS1179E, MGC26534, nPKC-iota	P41743	NP_002731	Recombinant full-length human PKCiota was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~98
PK14	PKC θ (PRKCQ)	Protein kinase C, theta	PRKCQ, PRKCT, MGC126514, MGC141919, nPKC-theta	Q04759	NP_006248	Recombinant full-length human PKC-theta was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
PK15	PKC ζ (PRKCZ)	Protein kinase C, zeta type	PRKCZ, PRKCZ, PKC2	Q05513	NP_002735	Recombinant full-length human PKCzeta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~93
PK34	PKD1 (PRKD1, PKC μ)	Protein kinase C, mu	PKD, PKCM, PRKCM	Q15139	NP_002733	Recombinant full-length human PKCmu was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~131
PK17	PKD2 (PRKD2)	Protein kinase C, D2	HSPC187, DKFZp586E0820, PRKD2	Q9BZL6	NP_057541	Recombinant full-length human PKD2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~130
PK35	PKD3 (PRKD3)	Protein kinase C, nu	PKC ν , EPK2, PRKCN, PKD3, nPKC-NU	Q13976	NP_005804	Recombinant full-length human PKCnu was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~142
PK19	PKG1 α (PRKG1A)	cGMP-dependent protein kinase 1, alpha	PGK, CGKI, PRKG1B, PRKGR1B, FLJ36117, MGC71944, cGKI-BETA, cGKI-alpha, DKFZp686K042	Q13976	NP_006249	Recombinant full-length human PRKG1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~100
PK33	PKN1	Protein kinase N1	DBK, MGC46204, PAK1, PKN, PKN-ALPHA, PRK1, PRKCL1	Q16512	NP_998725		
EI01	PKR (EIF2AK2)	Interferon-induced, double-stranded RNA-activated protein kinase	PKR, PRKR, EIF2AK1	P19525	NP_002750	Recombinant human EIF2AK2 (252-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~64
PL01	PLK1	Serine/threonine-protein kinase Plk1	STPK13	P53350	NP_005021	Recombinant full-length human PLK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal His tag.	~70
PL30	PLK2	Polo-like kinase 2	SNK	Q9NYY3	NP_006613		
PY30	PYK2 (PTK2B)	Protein tyrosine kinase 2 beta	FAK2, PTK2B, CADTK, FADK2, CAKB, PKB, PTK, RAFTK, PYK2	Q14289	NP_775266	Recombinant human PYK2 (360-690) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~39
SN01	QIK (SNF1LK2)	SNF1-like kinase 2	DKFZp434K1115, KIAA0781, LOH11CR11, SIK2	Q9H0K1	NP_056006		
RA20	Raf1	Raf proto-oncogene serine/threonine-protein kinase		P04049	NP_002871	Recombinant human Raf1(306-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
RA03	Raf1 [Y340E, Y341E]	Raf proto-oncogene serine/threonine-protein kinase		P04049	NP_002871	Recombinant human RAF1(Y340E Y341E, 306-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
RE30	Ret	Ret proto-oncogene-encoded kinase	CDHF12, HSCR1, MEN2A, MEN2B, MTC1, PTC, RET-ELE1	P07949	NP_066124		

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
RI01	RIPK2	Receptor-interacting serine/threonine-protein kinase 2	RICK, RIP2, CARD3, CARDIAK, CCK, GIG30	Q43353	NP_003812	Recombinant human RIPK2 (1-299) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~59
RO30	ROCK1	Rho-associated protein kinase 1	P160ROCK, ROCK-I, ROKbeta	Q13464	NP_005397	Recombinant human ROCK1 (17-535) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~85
RO02	ROCK2 (ROK α)	Rho-associated protein kinase 2	KIAA0619, ROCK-II, ROKalpha	O75116	NP_004841	Recombinant human ROCK2 (5-554) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~88
RO03	RON (MST1R)	Macrophage-stimulating protein receptor	MST1R, PTK8, CDw136	Q04912	NP_002438	Recombinant human RON (983-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
RS30	RSK1 (RPS6KA2)	Ribosomal protein S6 kinase alpha 2	RPS6KA1, HU-1, MAPKAPK1A, S6K-alpha 1	Q15418	NP_066958	Recombinant full-length human RSK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~108
RS05	RSK2 (PRS6KA3)	Ribosomal S6 kinase 2 (alpha 3)	RPS6KA3, HU-3, MAPKAPK1B, CLS, MRX19, ISPK-1, p90-RSK2, pp90RSK2, S6K-alpha3	P51812	NP_004577	Recombinant full-length human RSK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~112
RS06	RSK3 (RPS6KA1)	Ribosomal protein S6 kinase alpha 1	RSK, HU-2, RPS6KA2, p90-RSK3, pp90RSK3, MAPKAPK1C, S6K-alpha, S6K-alpha2	Q15349	NP_002944	Recombinant full-length human RSK3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~112
RS07	RSK4 (RPS6KA6)	Ribosomal protein S6 kinase alpha 6	RPS6KA6	Q9UJ32	NP_055311	Recombinant full-length human RSK4 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~112
MY30	skMLCK (MYLK2)	Myosin light chain kinase 2, skeletal/cardiac muscle	skMLCK, KMLC, MLCK, MLCK2	Q9H1R3	NP_149109	Recombinant full-length human MYLK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~74
ML01	smMLCK (MLCK2)	Myosin light chain kinase, smooth muscle and non-muscle isozymes	MYLK, MLCK2, KRP, MLCK108, MLCK210, MSTP083, FLJ12216, DKFZp686i10125	Q15746	NP_444253	Recombinant human MLCK (1425-1776) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~70
SR01	Src	Proto-oncogene tyrosine-protein kinase Src	ASV, SRC1, c-SRC, p60-Src	P12931	NP_005408	Recombinant full-length human SRC was expressed in E.coli cells using an N-terminal GST tag.	~83
SR30	SRPK1	SFRS protein kinase 1	SFRSK1	Q96SB4	NP_003128	Recombinant full-length human SRPK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~130
SR31	SRPK2	SFRS protein kinase 2	FLJ36101, SFRSK2	P78362	NP_872633		

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
TA30	TAO1 (TAOK1)	Serine/threonine-protein kinase TAO1	PSK2, MARKK, MAP3K16, FLJ14314, KIAA1361	Q7L7X3	NP_065842	Recombinant human TAO1 (1-314) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
TA31	TAO2 (TAOK2)	Serine/threonine-protein kinase TAO2	PSK, PSK1, TAO1, TAO2, MAP3K17, KIAA0881	Q9UL54	NP_004774	Recombinant human TAO2 (1-314) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
TA05	TAO3 (TAOK3, JIK)	TAO kinase 3	DKFZp666H245, DPK, FLJ31808, JIK, MAP3K18, TAO3	Q9H2K8	NP_057365		
TB01	TBK1	TANK-binding kinase 1	NFkB-activating kinase, NAK, T2K, FLJ11330	Q9UHD2	NP_037386	Recombinant full-length human TBK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~105
TE30	TEC	Tec protein-tyrosine kinase	MGC126760, MGC126762, PSCTK4	P42680	NP_003206		
TG30	TGFβR1	Transforming growth factor, beta receptor 1	AAT5, ACVRLK4, ALK-5, ALK5, LDS1A, LDS2A, SKR4	P36897	NP_004603		
TG31	TGFβR2	TGF-beta receptor type II	AAT3, FAA3, MFS2, RIIC, HNPCC6, TGFR-2, TGFbeta-RII, TAAD2	P37173	NP_003233	Recombinant human TGFβR2 (190-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~68
TI01	Tie2 (Tek)	Angiopoietin 1 receptor [Precursor]	TEK, VMCM, VMCM1, CD202B	Q02763	NP_000450	Recombinant human TIE 2 (771-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~61
TR01	TrkA (NTRK1)	High affinity nerve growth factor receptor	NTRK1, MTC, TRK, TRK1, p140-TrkA, DKFZp781114186	P04629	NP_002520	Recombinant human TRKA (440-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~66
TR02	TrkB (NTRK2)	BDNF/NT-3 growth factors receptor	NTRK2, GP145-TrkB	Q16620	NP_001018074	Recombinant human TRKB (455-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~67
TS01	TSSK1 (STK22D)	Testis-specific serine kinase 1B	FKSG81, SPOGA4, STK22D, TSSK1	Q9BXA7	NP_114417		
TS02	TSSK2 (STK22B)	Testis-specific serine/threonine protein kinase 2	DGS-G, SPOGA2, STK22B, FLJ38613	Q96PF2	NP_443732	Recombinant full-length human TSSK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~66
TX30	TXK	Tyrosine-protein kinase TXK	RLK, TKL, BTKL, PTK4, PSCTK5, MGC22473	P42681	NP_003319	Recombinant human TXK (239-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~53
TY01	TYK2	Tyrosine kinase 2	JTK1	P29597	NP_003322		
TY02	TYRO3 (RSE)	Tyrosine-protein kinase receptor TYRO3	BYK, RSE, Dtk, Sky, Tif, Brt	Q06418	NP_006284	Recombinant human TYRO3 (455-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~77

ID Code	Protein Kinase Name	Full Name	Alias	SwissProt	Refseq	Description	Recombinant Mol. Mass (KDa)
WE30	WEE1	WEE1 homologue	DKFZp686l18166, FLJ16446, WEE1A, WEE1hu	P30291	NP_003381		
YE30	Yes (Yes1)	v-Yes-1 Yamaguchi sarcoma viral oncogene homologue 1	HsT441, P61-YES, Yes1, c-yes	P07947	NP_005424		
SO01	YSK1 (STK25, SOK1)	Serine/threonine kinase 25	DKFZp686J1430, SOK1, STK25	O00506	NP_006365		
ZA01	ZAK	Sterile alpha motif and leucine zipper containing kinase AZK	AZK, MLK7, MLT, MLTK, MRK, mlklak	Q9NYL2	NP_057737		
ZA30	ZAP70	Tyrosine-protein kinase ZAP-70	SRK, STD, ZAP-70	P43403	NP_001070	Recombinant full-length human ZAP70 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~96
MI01	ZC3 (MINK1)	Mitogen-activated protein kinase kinase kinase kinase 6	B55, ZC3, MINK, YSK2, hMIN, MAP4K6, MGC21111, hMINK β	Q8N4C8	NP_056531	Recombinant human MINK1 (1-320) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~61



Form: **KICP-SOF-01**

KINASE INHIBITOR COMPOUND PROFILING SERVICE ORDER FORM

KINEXUS ORDER NUMBER

CUSTOMER INFORMATION REPEAT CUSTOMER OR NEW CUSTOMER

Dr. Mr. Ms. _____
Name of Authorized Representative or Principal Investigator Title/Position

Company Name or Institute Department

Street Address

City State or Province Country Zip or Postal Code

Email Address (Area Code) Telephone Number (Area Code) Facsimile Number

Contact Person (if different from Authorized Representative) Email Address (Area Code) Telephone Number

KINASE INHIBITOR COMPOUND PROFILING REPORTS

RESULTS SENT BY EMAIL TO: AUTHORIZED REPRESENTATIVE/INVESTIGATOR AND/OR CONTACT PERSON

REQUESTED WORK AND PRICING INFORMATION

Refer to Service Identification Forms (KICP-SIF-01A and KCIP-SIF-01B) *All prices in U.S. Funds*

Sheet No.	KICP-SIF ID Name (from Section A of KICP-01 Forms)	Total Number of Assays (from Section B of KICP-01 Forms)
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____

Total Number Assays (Sum 1-8) _____ (Complete up to this point for quotation purposes only)

Quotation or Reference Number: _____ **TOTAL COST AS PER QUOTATION = \$** _____

FOR CANADIAN CUSTOMERS ONLY:
 Add an additional 5% to the above total for GST (No. 893907329 RT0001): + \$ _____ = \$ _____
TOTAL AMOUNT PAYABLE IN U.S FUNDS

PAYMENT METHOD

PURCHASE ORDER ACCEPTED FROM COMPANIES AND INSTITUTES WITH APPROVED CREDIT. P.O. NUMBER: _____

VISA OR MASTERCARD

Print Cardholder Name Visa Number Expires (M/Y) Cardholder Signature

BILLING INFORMATION SEND INVOICE TO CUSTOMER AT ABOVE ADDRESS OR SEND INVOICE TO ACCOUNTS PAYABLE CONTACT:

Dr. Mr. Ms. _____
Accounts Payable Contact Name Company Name or Institute

Street Address City

State or Province Country Zip or Postal Code (Area Code) Telephone Number

AUTHORIZATION

CUSTOMER HAS READ THE KINEXUS SERVICE AGREEMENT AND AGREES TO BE BOUND BY THE TERMS AND CONDITIONS:

Print Name of Authorized Representative or Principal Investigator Authorized Signature Date (m/d/y)

How did you originally hear about the KICP Services? Direct Mail Email Web Site Advertisement Referral Conference or Trade Show Other



Form: **KICP-SIF-01A**

**KINASE INHIBITOR
COMPOUND PROFILING**

SERVICE INFORMATION FORM

Subject to terms of the Kinexus Service Agreement

KINEXUS ORDER NUMBER

NAME: _____ **COMPANY/INSTITUTE:** _____
(Authorized Representative or Principal Investigator)

Confidential Service Requested: One Kinase; Multiple Numbers and/or Dilutions of Compounds

Use the KICP-SIF-01B Form if you wish to have many kinases tested against only one compound. Please refer to the Kinase Inhibitor Compound Profiling Customer Information Package for further details about this in vitro custom compound screening service. Initially use this form to obtain a quotation from Kinexus for pricing of your custom order. Please also provide a copy of this completed form at the time of submission of your compounds for analysis. Use additional copies of this form if you have more compounds or a larger number of kinases to be tested. If you need assistance completing this form, contact a technical service representative by calling toll free in North America 1-866-KINEXUS (866-546-3987) or by email at info@kinexus.ca.

<p>CUSTOM SERVICE REQUESTED: KICP-1.0 Custom multi-compound (1-15) and single target kinase (1) screen</p> <p><i>Depending on the scale of your order, make sure that you are supplying at least five-times as much as minimally necessary of the compound to be tested..</i></p>	<p>KINEXUS ID NUMBER <i>(Bar Code Identification Number)</i></p> <p>For Kinexus Internal Use Only.</p>	<p>A. KICP-SIF IDENTIFICATION NAME:</p> <p>Client ID: _____</p> <p><i>Use this ID name of your choice for your internal reference and completion of the KICP-SOF form. This is useful when multiple copies of this KICP-SIF forms are to be used in your order.</i></p>																																																																																																																																																																																																			
<p>B. COMPOUND SELECTION:</p> <p><i>For each separate compound, under "Compound ID" please provide the assigned client name that has been entered into Box A from the completed and attached "Confidential Sample Description" form (KICP-CSDF-01). For each concentration of the compound to be tested (up to 6) indicate the amount and whether this represents "µM" or "µg/ml" by ticking the appropriate box. Also indicate whether each assay is to be performed in single ("Once"), duplicate ("Dupl.") or triplicate ("Tripl.") measurements. Under "Subtotal" for each compound, indicate the number of individual assays that you intend to be performed.</i></p> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2">Compound ID.</th> <th colspan="6">Final Conc. (µM) <input type="checkbox"/> or (µg/ml) <input type="checkbox"/></th> <th colspan="3">Replicates</th> <th rowspan="2">Subtotal</th> </tr> <tr> <th>Dil. 1</th> <th>Dil. 2</th> <th>Dil. 3</th> <th>Dil. 4</th> <th>Dil. 5</th> <th>Dil. 6</th> <th>Once</th> <th>Dupl.</th> <th>Tripl.</th> </tr> </thead> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>7. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>8. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>9. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>10. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>11. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>12. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>13. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>14. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>15. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr> <td colspan="10" style="text-align: right; padding-top: 5px;">Total Number of Assays _____</td> </tr> </tbody> </table>		Compound ID.	Final Conc. (µM) <input type="checkbox"/> or (µg/ml) <input type="checkbox"/>						Replicates			Subtotal	Dil. 1	Dil. 2	Dil. 3	Dil. 4	Dil. 5	Dil. 6	Once	Dupl.	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KINASE SELECTION:</p> <p><i>Use Appendix A of the Kinase Inhibitor Compound Profiling Customer Information Package to obtain the code (Column A) and name (Column B) of the protein kinase that will be tested for inhibition by the compounds listed in Section B. A more detailed MS-Excel spreadsheet with information about each kinase can be downloaded from the Kinexus website at www.kinexus.ca/services/kinase_inhibitor_profiling.php.</i></p> <p>Kinase ID code: _____</p> <p>Kinase target name: _____</p>
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<p>D. ASSAY TIME:</p> <p><i>If you have a recommended or required incubation time, please provide this here.</i></p> <p>Assay time (minutes): _____</p>		<p>E. PRICING:</p> <p><i>Pricing varies with the number of kinases and compounds to be tested in each custom order. It is also feasible for Kinexus to test compounds against protein kinases that are provided by clients. Therefore, it is necessary to complete this form and transmit it by facsimile to 1-604-323-2548 with your e-mail address, facsimile and telephone number to obtain a quotation for each custom analysis. We will endeavor to issue a quotation that is valid for four weeks within 24 hours of receipt.</i></p>																																																																																																																																																																																																			
<p>F. SPECIAL INSTRUCTIONS:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>																																																																																																																																																																																																					



Form: KICP-SIF-01B

**KINASE INHIBITOR
COMPOUND PROFILING**

SERVICE INFORMATION FORM

Subject to terms of the Kinexus Service Agreement

KINEXUS ORDER NUMBER

NAME: _____ **COMPANY/INSTITUTE:** _____
(Authorized Representative or Principal Investigator)

Confidential Service Requested: One Compound at One or More Dilutions; Multiple Kinases

Use the KICP-SIF-01A Form instead if you wish to have many compounds tested against only one kinase. Please refer to the Kinase Inhibitor Compound Profiling Customer Information Package for further details about this in vitro custom compound screening service. Initially, use this form to obtain a quotation from Kinexus for pricing of your custom order. Please also provide a copy of this completed form at the time of submission of your compounds for analysis. Use additional copies of this form if you have more compounds or a larger number of kinases to be tested. If you need assistance completing this form, contact a technical service representative by calling toll free in North America 1-866-KINEXUS (866-546-3987) or by email at info@kinexus.ca.

<p>CUSTOM SERVICE REQUESTED: KICP-1.0 Custom multi-kinase (1-15) and single compound (1) screen</p> <p><i>Depending on the scale of your order, make sure that you are supplying at least three-times as much as minimally necessary of the compound to be tested.</i></p>	<p>KINEXUS ID NUMBER <i>(Bar Code Identification Number)</i></p> <p>For Kinexus Internal Use Only.</p>	<p>A. KICP-SIF IDENTIFICATION NAME:</p> <p>Client ID: _____</p> <p><i>Use this ID name of your choice for your internal reference and completion of the KICP-SOF form. This is useful when multiple copies of this KICP-SIF forms are to be used in your order.</i></p>																																																																																																																																																																																																		
<p>C. KINASE SELECTION:</p> <p><i>Use Appendix A of the Kinase Inhibitor Compound Profiling Customer Information Package to obtain the code (Column A) and name (Column B) of the protein kinase that will be tested for inhibition by the compounds listed in Section B. A more detailed MS-Excel spreadsheet with information about each kinase can be downloaded from the Kinexus website at www.kinexus.ca/services/kinase_inhibitor_profiling.php. For each concentration of the compound to be tested (up to 6) indicate the amount and whether this represents "µM" or "µg/ml" by ticking the appropriate box. Also indicate whether each assay is to be performed in single ("Once"), duplicate ("Depl.") or triplicate ("Tripl.") measurements. Under "Subtotal" for each compound, indicate the number of individual assays that you intend to be performed.</i></p> <table border="1" style="width:100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th rowspan="2">Kinase Code + Name</th> <th colspan="6">Compound Final Conc. (µM) <input type="checkbox"/> or (µg/ml) <input type="checkbox"/></th> <th colspan="3">Replicates</th> <th rowspan="2">Subtotal</th> </tr> <tr> <th>Dil. 1</th> <th>Dil. 2</th> <th>Dil. 3</th> <th>Dil. 4</th> <th>Dil. 5</th> <th>Dil. 6</th> <th>Once</th> <th>Dupl.</th> <th>Tripl.</th> </tr> </thead> <tbody> <tr><td>1. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>2. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>3. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>4. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>5. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>6. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>7. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>8. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>9. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>10. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>11. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>12. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>13. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>14. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td>15. _____</td><td></td><td></td><td></td><td></td><td></td><td></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr> <td colspan="10" style="text-align: right;">Total Number of Assays _____</td> </tr> </tbody> </table>	Kinase Code + Name	Compound Final Conc. 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COMPOUND SELECTION:</p> <p><i>Please provide the assigned client name that has been entered into Box A from the completed and attached "Confidential Sample Description" form (KICP-CSDF-01).</i></p> <p>Compound ID: _____</p>
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<p>D. ASSAY TIME:</p> <p><i>If you have a recommended or required incubation time, please provide this here.</i></p> <p>Assay time (minutes): _____</p>		<p>E. PRICING:</p> <p><i>Pricing varies with the number of kinases and compounds to be tested in each custom order. It is also feasible for Kinexus to test compounds against protein kinases that are provided by clients. Therefore, it is necessary to complete this form and transmit it by facsimile to 1-604-323-2548 with your e-mail address, facsimile and telephone number to obtain a quotation for each custom analysis. We will endeavor to issue a quotation that is valid for four weeks within 24 hours of receipt.</i></p>																																																																																																																																																																																																		
<p>F. SPECIAL INSTRUCTIONS:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>																																																																																																																																																																																																				

COMMERCIAL INVOICE

DATE OF EXPORTATION	EXPORT REFERENCES <i>(not required)</i>
SHIPPER/EXPORTER	CONSIGNEE Kinexus Bioinformatics Corporation Suite 1, 8755 Ash Street Vancouver, B.C. Canada V6P 6T3 Telephone: (604) 323-2547 Ext. 1 or 10 Facsimile: (604) 323-2548 Email: info@kinexus.ca
COUNTRY OF EXPORT	TERMS OF SALE Not for resale, sample for analysis
COUNTRY OF ORIGIN	PURPOSE Research and development
COUNTRY OF ULTIMATE DESTINATION Canada	EXPORTING CARRIER
INTERNATIONAL AIR WAYBILL NUMBER Courier Number:	

NO. OF PKGS	TYPE OF PACKAGING	QUANTITY OF SAMPLES	COMPLETE AND ACCURATE COMMODITY DESCRIPTION	UNIT VALUE
	<input type="checkbox"/> FedEx Letter <input type="checkbox"/> FedEx Pak <input type="checkbox"/> Box <input type="checkbox"/> Other	<i>Total number of 1.5 ml Eppendorf tubes:</i>	Non-hazardous, compounds for research and development for therapeutic purposes. Samples are not for resale and there is no commercial value.	\$1.00 <i>per sample</i>
TOTAL NO. OF PACKAGES		TOTAL WEIGHT OF PACKAGES		TOTAL DECLARED VALUE \$

These commodities were exported from the Country indicated above in accordance with the Export Administration Regulations and are licensed for the ultimate designation shown. It is hereby certified that this commercial invoice shows the actual price of the goods described, that no other invoice has been or will be issued for these goods, and that all particulars are true and correct.

SIGNATURE AND STATUS OF AUTHORIZED PERSON

Print Name

Authorized Signature

Title

Date (month/day/year)

INCLUDE THREE (3) COPIES OF THIS INVOICE WITH YOUR SHIPMENT

COMMERCIAL INVOICE

DATE OF EXPORTATION	EXPORT REFERENCES
SHIPPER/EXPORTER	CONSIGNEE Kinexus Bioinformatics Corporation Suite 1, 8755 Ash Street Vancouver, B.C. Canada V6P 6T3 Telephone: (604) 323-2547 Ext. 1 or 10 Facsimile: (604) 323-2548 Email: info@kinexus.ca
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TOTAL NO. OF PACKAGES			TOTAL WEIGHT OF PACKAGES	TOTAL DECLARED VALUE \$

These commodities were exported from the Country indicated above in accordance with the Export Administration Regulations and are licensed for the ultimate designation shown. It is hereby certified that this commercial invoice shows the actual price of the goods described, that no other invoice has been or will be issued for these goods, and that all particulars are true and correct.

SIGNATURE AND STATUS OF AUTHORIZED PERSON

Print Name

Title

Authorized Signature

Date (month/day/year)

INCLUDE THREE (3) COPIES OF THIS INVOICE WITH YOUR SHIPMENT



**KINEXUS KINASE INHIBITOR
COMPOUND PROFILING SERVICES
AGREEMENT**

SERVICE AGREEMENT NO.

This Agreement is entered into effective as of the Effective Date by and between Kinexus Bioinformatics Corporation (“**Kinexus**”), a Canadian corporation with a principal place of business at Suite 1, 8755 Ash Street, Vancouver, British Columbia, Canada, V6P 6T3 **AND** the corporation or other entity (“**Customer**”) having the following name and business or institution address: _____

R E C I T A L S

WHEREAS Kinexus is a bioinformatics company employing proprietary proteomics and bioinformatics services to create and interpret data to map protein signalling networks and compile databases of this knowledge for disease biomarker and therapeutics discovery.

WHEREAS the Customer wishes to have Kinexus analyze the ability of compounds provided by the Customer to inhibit certain protein kinases by biochemical assays.

WHEREAS Kinexus is willing to provide services to undertake the analysis of the inhibitory effects of compounds on the enzymatic activities of specific protein kinases under the terms and conditions set forth herein.

THEREFORE, in consideration of the premises and covenants and agreements contained herein, and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, Kinexus and Customer agree as follows:

1. DEFINITIONS

1.1 "Academic Collaborator" means a principal investigator, employed at a university or other not-for-profit academic research institution.

1.2 "Affiliate" means any corporation or other entity that directly or indirectly controls, is controlled by or is under common control with a party to this Agreement. A corporation or other entity shall be regarded as in control of another corporation or entity if it owns or directly or indirectly controls more than fifty percent (50%) of the outstanding voting stock or other ownership interest of the other corporation or entity.

1.3 "Confidential Information" means any information or data received by a party (the “Receiving Party”) from the other party (the “Disclosing Party”) in connection with the performance of this Agreement that, if disclosed in writing, is marked or otherwise identified by the Disclosing Party as confidential or, if disclosed orally is identified in writing by the Disclosing Party as confidential within ten (10) days following the disclosure. Confidential Information shall not include any information or data that the Receiving Party can demonstrate:

- (a) was generally available to the public before its disclosure to the Receiving Party or became generally available to the public after its disclosure to the Receiving Party, provided that such information or data did not become generally available to the public by means of an unauthorized act or omission of the Receiving Party;
- (b) was already in the possession of the Receiving Party before its disclosure under this Agreement, as demonstrated by Receiving Party's written records, provided that such information or data was not obtained directly or indirectly from the Disclosing Party under an obligation of confidentiality;
- (c) was disclosed to the Receiving Party, whether before or after its disclosure under this Agreement, by a Third Party, provided that such information or data was not obtained directly or indirectly from the Disclosing Party under an obligation of confidentiality; or
- (d) was independently developed or discovered by employees or agents of the Receiving Party without any use of Confidential Information of the Disclosing Party as demonstrated by Receiving Party's written records.

1.4 "Contact" means the contact person of the Customer that is designated on the Service Order Forms, who is deemed to have the authority to deliver Samples, Service Order Forms, Service Information Forms, and Sample Description Forms to Kinexus, on behalf of the Customer, under this Agreement.

1.5 "KICP Analysis" means the Kinase Inhibitor Compound Profiling service provided by Kinexus that utilizes a one or more protein kinases that are selected by the Customer from a list of kinases available from Kinexus or that are supplied by the Customer.

1.6 "Effective Date" means the date of the last signature on this Agreement.

1.7 "KICP Report" means the underlying raw data and the report provided to Customer hereunder consisting of qualitative analyses of the effect of compounds provided by the Customer on the enzymatic activity of selected protein kinases including, but not limited to:

- (i) tables of the experimental results; and
- (ii) graphs of the experimental results.

1.8 "Sample" means the compound(s) provided to Kinexus by the Customer, which the Customer has prepared and shipped in a manner that it can be properly used by Kinexus for the Custom Kinase Inhibitor Compound Profiling Analysis.

1.9 "Sample Description Form" means the Kinexus form required to be completed by the Customer to provide information on the nature of each compound submitted for the KICP Analysis. It is included in the KICP Analysis Customer Information Package with this Agreement, and may be amended from time to time as updated on the Kinexus website.

1.10 "Service Order Form" means the Kinexus form to be completed by the Customer to provide Kinexus with the Customer's contact and billing information for the KICP Analysis. It is included in the KICP Analysis Customer Information Package with this Agreement, and may be amended from time to time as updated on the Kinexus website.

1.11 "Service Information Form" means the Kinexus form to be completed by the Customer to provide Kinexus with a specific listing of the protein kinases and compounds to be tested for the KICP Analysis. It is

included in the KICP Analysis Customer Information Package with this Agreement, and may be amended from time to time as updated on the Kinexus website.

1.12 "Third Party" means any entity other than Kinexus', Kinexus' Affiliates, Customer and Customer's Affiliates.

2. REQUEST FOR AND DELIVERY OF KICP REPORT

2.1 Request for KICP Report. From time to time, over the Term of this Agreement (as defined in Section 6.1 herein), the Customer can engage Kinexus to provide its KICP Analyses. After submission of a quotation from Kinexus to the Customer, by delivery to Kinexus of a Service Order Form, a Service Information Form and a Sample Description Form with Samples, the Customer hereby requests and authorizes Kinexus to perform a KICP Analysis and deliver a KICP Report to the Customer, pursuant to the terms and conditions in this Agreement.

2.2 Representation and Warranty. Customer represents and warrants that: (a) it has all right and authority to provide the Sample to Kinexus for analysis under the terms and conditions of this Agreement, (b) it collected the Sample lawfully and with all necessary consents and approvals, and (c) that the collection, use and disclosure of the Sample by Kinexus pursuant to this Agreement will not violate the rights of any Third Party.

2.3 Delivery Conditions for Customer Sample. Customer shall be responsible for making shipping arrangements to deliver Samples to Kinexus. Customer shall also be responsible for complying with all applicable laws and regulations (including but not limited to customs requirements and relevant handling procedures and protocols) and obtaining any and all permits, forms or permissions that may be required by all regulatory authorities to ship and deliver the Sample, to Kinexus and for Kinexus to accept delivery of the Sample.

2.4 Processing and Delivery of KICP Report. Subject to the terms of this Agreement, Kinexus shall analyze each Sample, and deliver a KICP Report to the Customer for each Sample, as requested on the Service Order Form and Service Information Form.

2.5 Quality of Samples for KICP Analysis. Kinexus shall not deliver a KICP Report on any Sample that Kinexus, in its sole discretion, believes has not been prepared and delivered in a manner that would compromise its ability to provide a reliable result. Under such a circumstance, the Sample will be destroyed by Kinexus after ten (10) days notification by e-mail to the Customer or at the request of the Customer prior to the scheduled destruction of the Sample, it will be returned to the Customer provided that the Customer agrees to reimburse Kinexus for the courier costs for its delivery.

3. PAYMENTS

3.1 Payments for KICP Report. For each KICP Report requested under this Agreement Customer shall pay to Kinexus a fee in accordance with the amount specified on the Service Order Form, which may be amended from time to time as updated on Kinexus' website. This amount will be based on a formal quotation issued by Kinexus to the Customer.

3.2 Customer shall issue a purchase order or provide a charge account at the time the Customer sample arrives at Kinexus' offices at Suite 1, 8755 Ash Street, Vancouver, British Columbia, Canada, V6P 6T3. Kinexus will invoice Customer when the KICP Report is complete and delivered to Customer. Payment terms are net 30 days from date of invoice.

3.3 Interest on Late Payments. Any overdue payments by Customer to Kinexus under this Agreement shall bear interest, to the extent permitted by applicable law at 18% per annum, calculated on the total number of days payment is delinquent; provided, however, that interest shall not accrue pursuant to this Section 3.3 on any amounts payable under this Agreement with respect to which payment is disputed in good faith; provided, further that interest shall accrue pursuant to this Section 3.3 once such dispute has been resolved if payment is not made promptly thereafter.

4. INTELLECTUAL PROPERTY RIGHTS

4.1 Ownership of Sample Information. Customer owns all rights to the Sample information provided to Kinexus.

4.2 Ownership of KICP Report. Customer shall own the data in the KICP Report.

4.3 Confidentiality of Sample Information. Kinexus will have no rights with respect to the Confidential sample information for a period of three (3) years or until the sample information is published or otherwise enters the public domain. Thereafter, Kinexus can use the results of the KICP Analysis of the Customer Samples for its internal research and development programs.

4.4 Ownership of New Intellectual Property. Customer shall own and have rights to all inventions, discoveries, improvements, know-how, technical information, data or other technology discovered, conceived, made, developed and/or reduced to practice through the use of the data in the KICP Report solely by employees of Customer or jointly with its Affiliates.

5. CONFIDENTIALITY

5.1 Confidentiality. Each Receiving Party shall treat the Confidential Information of the Disclosing Party as strictly confidential and (a) take reasonable precautions to protect such Confidential Information (including, without limitation, all precautions such as the Receiving Party employs with respect to its own confidential information), (b) not disclose or make available to any Third Party such Confidential Information without the express prior written consent of the Disclosing Party and (c) use such Confidential Information only for purposes specifically authorized under this Agreement. Each Receiving Party may disclose Confidential Information to its employees, consultants, Affiliates and agents, and to licensees or prospective licensees of its rights to any invention, on a need-to-know basis and on the condition that such employees, Affiliates, agents, licensees and prospective licensees are obligated to maintain the confidentiality of the Confidential Information under written agreements that contain terms and conditions no less restrictive than the terms and conditions of this Section 5. Each Receiving Party may disclose Confidential Information of the Disclosing Party pursuant to a demand issued by a court or governmental agency or as otherwise required by law, provided, however, that the Receiving Party notifies the Disclosing Party promptly upon receipt thereof, giving the Disclosing Party sufficient advance notice to permit it to seek a protective order or other similar order with respect to such Confidential Information, and provided, further, that the Receiving Party furnishes only that portion of the Confidential Information which it is advised by counsel is legally required whether or not a protective order or other similar order is obtained by the Disclosing Party.

5.2 Publication. Customer may publish and/or present the KICP Report, abstracts or manuscripts generated utilizing KICP Report, and any data and/or results generated by the Customer utilizing the KICP Report. Customers are encouraged to disclose in scientific publications that their “Kinase Inhibitor Compound Profiling Analysis was performed by Kinexus Bioinformatics Corporation (Vancouver, Canada).”

5.3 Confidential Sample Information. All parties agree that the term of confidentiality pertaining to that Sample information will expire three (3) years after the date on the Sample Identification Form or when the Sample information is published or otherwise enters public domain through no fault of Kinexus, whichever occurs first.

5.4 Use of Customer Name. Except as expressly provided in Section 9.5, no right or license is granted hereunder by Customer for Kinexus to use Customer's name in relation to data from a KICP Report to a third party.

6. TERM AND TERMINATION

6.1 Term. The term of this Agreement (“**Term**”) shall commence on the Effective Date and shall remain in effect for fifteen (15) years or until the termination of this Agreement pursuant to the terms hereof.

6.2 Early Termination. Each party shall have the right to terminate this Agreement at any time prior to Kinexus' delivery of KICP Report to Customer hereunder, upon ten (10) days written notice to the other party, if such party reasonably determines that the production, or use of such Sample infringes intellectual property rights of any Third Party, and Customer elects not to obtain a license under the necessary Third Party intellectual property rights at its sole expense. If this Agreement is terminated by either party pursuant to this Section 6.2, neither party shall have any obligation to the other with respect to payments under this Agreement regarding the Sample at issue.

Kinexus shall have the right to terminate any work order for any KICP analyses upon ten (10) days written notice to Customer, upon the identification of a technical difficulty related to the Sample which would prevent it from delivering the KICP Report using reasonable efforts. If Kinexus terminates a work order as a result of a technical difficulty related to the Customer Sample that is the fault of Kinexus, Kinexus shall provide for the reanalysis of the same number of problematic Customer Samples for the Custom KICP Analyses at the original agreed upon price without any additional expenses incurred by the Customer, or Kinexus shall repay any prepayment fee paid by Customer for such Customer Sample and neither party shall have any further obligation to the other with respect to that Customer Sample.

If Kinexus terminates a work order for the Kinetworks™ analyses as a result of a technical difficulty related to the Customer Sample (including insufficient material or other problems associated with the quality of the Sample) that is the fault of the Customer, then Kinexus shall provide for the reanalysis of the problematic Customer Samples at the original agreed upon price without any additional expenses incurred by the Customer, provided Kinexus completes the full KICP Analyses for all Samples. For any subsequent resubmission of Customer Samples for Kinetworks™ analyses due to technical difficulty that is again the fault of the Customer, Kinexus shall provide for the reanalysis of the problematic Customer Samples at an additional charge per sample at a price mutually agreed upon by the Customer and Kinexus. If the customer chooses not to resubmit Samples for analysis, Kinexus will charge a fee for the work incurred equivalent to 50% of the quoted price for the order.

6.3 Events of Default. An event of default (an “Event of Default”) shall be deemed to occur upon a material breach of this Agreement by a party (including, without limitation, any breach of the provisions of Section 5) if the breaching party fails to remedy such breach within thirty (30) days after written notice thereof by the non-breaching party.

6.4 Effect of an Event of Default.

- (a) Remedies Available to Kinexus. If an Event of Default occurs relating to a material breach by the Customer, then Kinexus shall have the right, at its option exercisable in its sole discretion, in addition to any other rights or remedies available to it at law or in equity, to immediately terminate this Agreement upon notice thereof to Customer, in which case Customer shall return to Kinexus, or, upon Kinexus' written instruction, destroy any KICP Report and all information, materials or documentation provided or made available by Kinexus pursuant to this Agreement, and any copies thereof (including electronic copies).

- (b) Remedies Available to Customer. If an Event of Default occurs relating to a material breach by Kinexus, then Customer shall have the right, at its option exercisable in its sole discretion, in addition to any other rights or remedies available to it at law or in equity and subject to the limitations set forth in Section 7, to terminate this Agreement upon notice thereof to Kinexus.

6.5 Effect of Expiration or Termination of Agreement. The expiration or termination of this Agreement shall not relieve the parties of any obligation accruing prior to such expiration or termination. Kinexus will not be required to continue Custom Immunohistochemistry Analyses on a Sample after termination, and the Customer will be required to pay for work done prior to termination. The provisions of Sections 4, 5, 6, 7, 8, and 9 hereof shall survive any expiration or termination of this Agreement.

7. DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITY

7.1 Disclaimer of Warranties. THE IMMUNOHISTOCHEMISTRY REPORT IS BEING SUPPLIED TO CUSTOMER WITH NO EXPRESS, IMPLIED, STATUTORY OR OTHER WARRANTIES, REPRESENTATIONS, CONDITIONS OR GUARANTEES, INCLUDING THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND DURABILITY. WITHOUT LIMITING THE FOREGOING, KINEXUS MAKES NO REPRESENTATION OR WARRANTY THAT THE USE OF THE KICP REPORT OR THE DATA THEREIN OR THE PERFORMANCE OF THIS AGREEMENT WILL NOT INFRINGE ANY INTELLECTUAL PROPERTY OR OTHER RIGHTS OF ANY THIRD PARTY.

7.2 Limitation of Liability. Kinexus shall not be liable for any use by Customer, its Affiliates, Corporate Partners, or Academic Collaborators of the KICP Report or any loss, claim, damage or liability, of whatever kind or nature, which may arise from or in connection with the use of the Immunohistochemistry Report or the data therein. NOTWITHSTANDING ANYTHING ELSE IN THIS AGREEMENT OR OTHERWISE TO THE CONTRARY, NEITHER KINEXUS NOR CUSTOMER WILL BE LIABLE TO EACH OTHER WITH RESPECT TO ANY MATTER ARISING UNDER THIS AGREEMENT UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR (I) ANY PUNITIVE, EXEMPLARY, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOST PROFITS OR (II) COST OF PROCUREMENT OF SUBSTITUTE GOODS, TECHNOLOGY OR SERVICES. WITHOUT IN ANY WAY LIMITING THE FOREGOING, KINEXUS SHALL NOT, IN ANY EVENT, HAVE ANY LIABILITY WHATSOEVER IN CONNECTION WITH THIS AGREEMENT IN EXCESS OF AN AMOUNT EQUAL TO THE FEES PAID TO KINEXUS BY CUSTOMER HEREUNDER IN RESPECT OF THE SAMPLE(S) AT ISSUE.

8. INDEMNIFICATION

Except to the extent prohibited by law, Customer shall assume all liability for, and shall defend, indemnify and hold Kinexus, its Affiliates and their respective directors, officers, employees and agents harmless from, all claims, losses, damages or expenses (including reasonable attorneys' fees) arising directly or indirectly as a result of: (a) the use of the KICP Report or the data therein by Customer or its Affiliates, Corporate Partners or Academic Collaborators, or (b) the breach, untruthfulness or inaccuracy of any of the Customer's representations and warranties in this Agreement.

9. MISCELLANEOUS

9.1 Entire Agreement. The Appendices to this Agreement, together with all terms and conditions contained within this Agreement constitute the entire understanding between the parties with respect to the subject

matter hereof and, with respect to any conflicting terms from prior agreements between the parties, supersedes and cancels such conflicting sections from all previous registrations, agreements, commitments and writings in respect thereof. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both parties hereto.

9.2 Assignment and Waiver. This Agreement may not be assigned or otherwise transferred by either party without the written consent of the other party, such consent will not be unreasonably withheld. Notwithstanding the foregoing, Kinexus may, without such consent, assign its rights and obligations under this Agreement (a) to any Affiliate or (b) to a Third Party in connection with a merger, consolidation or sale of such portion of its assets that includes rights under this Agreement provided, however, that Kinexus' rights and obligations under this Agreement shall be assumed by its successor in interest in any such transaction. In the event of such a transaction with Third Party, notwithstanding the other provisions of this Agreement, the intellectual property rights of such Third Party shall not be subject to the licenses granted by Kinexus under this Agreement. Any purported assignment in violation of the provisions of this Section 9.2 shall be void. Any permitted assignee shall assume all obligations of its assignor under this Agreement. The waiver by either party hereto of any right hereunder or the failure to perform or of a breach by the other party shall not be deemed a waiver of any other right hereunder or of any other breach or failure by said other party whether of a similar nature or otherwise.

9.3 Force Majeure. Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any obligation under this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected party, including but not limited to fire, floods, embargoes, war, acts of war (whether war is declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor or supply disturbances, acts of God or acts, omissions or delays in acting by any governmental authority or the other party; provided, however, that the party so affected shall use reasonable commercial efforts to avoid or remove such causes of nonperformance, and shall continue performance hereunder with reasonable dispatch whenever such causes are removed. Either party shall provide the other party with prompt written notice of any delay or failure to perform that occurs by reason of force majeure. The parties shall mutually seek a resolution of the delay or the failure to perform as noted above.

9.4 Notices. Any consent, notice, or report required or permitted to be given or made under this Agreement by one of the notification parties hereto to the other shall be in writing, delivered personally, by email or by facsimile (and promptly confirmed by telephone, personal delivery or courier) or courier, postage prepaid (where applicable), addressed to such other party at its address indicated below, or to such other address as the addressee shall have last furnished in writing to the addressor and shall be effective upon receipt by the addressee.

If to Kinexus:

Kinexus Bioinformatics Corporation
Suite 1, 8755 Ash Street
Vancouver, British Columbia, Canada V6P 6T3
Attention: Dr. Steven Pelech
President & C.S.O.
Telephone: (604) 323-2547 extension 10
Facsimile: (604) 323-2548

If to Customer:

To Customer at the address designated at the front of this Agreement and to the attention of the duly authorized representative signing this Agreement.

9.5 Publicity. Except as required by law, the terms of this Agreement shall be treated as Confidential Information and shall not be disclosed to anyone (except for the parties' respective directors, officers, employees,

consultants, agents and attorneys assisting in the review and negotiation of this Agreement and/or who have a need to know the terms of this Agreement) without the written consent of the other party, such consent which will not be unreasonably withheld. Notwithstanding the foregoing, (a) Kinexus may, without such consent, publicly announce the execution of this Agreement with Customer and may reference Customer as a Kinexus client for KICP Analysis.

9.6 No Partnership. It is expressly agreed that the relationship between Kinexus and Customer shall not constitute a partnership, joint venture or agency. Neither Kinexus nor Customer shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other, without the prior consent of the other party to do so.

9.7 Applicable Law. This Agreement shall be governed by, construed, interpreted and enforced in accordance with, the laws of the province of British Columbia and the laws of Canada, without reference to conflict of laws principles.

9.8 Dispute Resolution.

- (a) The parties hereby agree that they will attempt in good faith to resolve any controversy or claim arising out of or relating to this Agreement promptly by negotiations. If a controversy or claim should arise hereunder, the matter shall be referred to an individual designated by the Chief Executive Officer or President of Kinexus and an individual designated by the Chief Executive Officer (or the equivalent position) of Customer (the “Representatives”). If the matter has not been resolved within twenty-one (21) days of the first meeting of the Representatives of the parties (which period may be extended by mutual agreement) concerning such matter, subject to rights to injunctive relief and specific performance, and unless otherwise specifically provided for herein, any controversy or claim arising out of or relating to this Agreement, or the breach thereof, will be settled as set forth in Section 9.8(b).
- (b) All disputes arising in connection with this Agreement that are not resolved pursuant to Section 9.8(a) above shall be finally settled in Vancouver, British Columbia, by a single arbitrator appointed pursuant to the provisions of the *Commercial Arbitration Act* (British Columbia). Notwithstanding the above, either party has the right to bring an action in a court of competent jurisdiction against the other party for (i) any breach of such other party’s duties of confidentiality pursuant to Section 5 of this Agreement; (ii) any infringement of its proprietary rights by the other party; and (iii) for interim protection such as, by way of example, an interim injunction. Judgment upon the arbitrator’s award may be entered in any court of competent jurisdiction. The award of the arbitrator may include compensatory damages against either party, but under no circumstances will the arbitrator be authorized to, nor shall he/she, award punitive, consequential or incidental damages against either party. The parties agree not to institute any litigation or proceedings against each other in connection with this Agreement except as provided in this Section 9.8.

9.9 Severability. Each party hereby agrees that it does not intend to violate any public policy, statutory or common laws, rules, regulations, treaty or decision of any government agency or executive body thereof of any country or community or association of countries. Should one or more provisions of this Agreement be or become invalid, the parties hereto shall substitute, by mutual consent, valid provisions for such invalid provisions which valid provisions in their economic effect are sufficiently similar to the invalid provisions that it can be reasonably assumed that the parties would have entered into this Agreement with such valid provisions. In case such valid provisions cannot be agreed upon, the invalidity of one or several provisions of this Agreement shall not affect the validity of this Agreement as a whole, unless the invalid provisions are of such essential importance to this Agreement that it is to be reasonably assumed that the parties would not have entered into this Agreement without the invalid provisions.

9.10 Counterparts. This Agreement may be executed in counterparts, each of which when executed and delivered is an original, but both of which together shall constitute one and the same instrument.

9.11 Fax Delivery. This Agreement may be executed by the parties and transmitted by facsimile and if so executed and transmitted this Agreement will be for all purposes as effective as if the parties had delivered an executed original Agreement.

IN WITNESS WHEREOF, the parties have caused their duly authorized officer to execute and deliver this Agreement as of the Effective Date.

Printed Name of Institute or Company

Per: _____
Signature of Authorized Representative

Name: _____
Printed Name of Authorized Representative

Title: _____
Printed Title of Authorized Representative

Date signed: _____

KINEXUS BIOINFORMATICS CORPORATION

Per: _____
Signature of Dr. Steven Pelech

Dr. Steven Pelech

President and Chief Scientific Officer

Date signed: _____