

Targets of cGMP

Nitric oxide receptor
e.g. GUCY1A3

Soluble GC

ANFRA

Atrial natriuretic receptors

ANFRB

cGMP

cGMP-activated protein kinase

S1

S50

+T58

S63

S72

T84

PKG

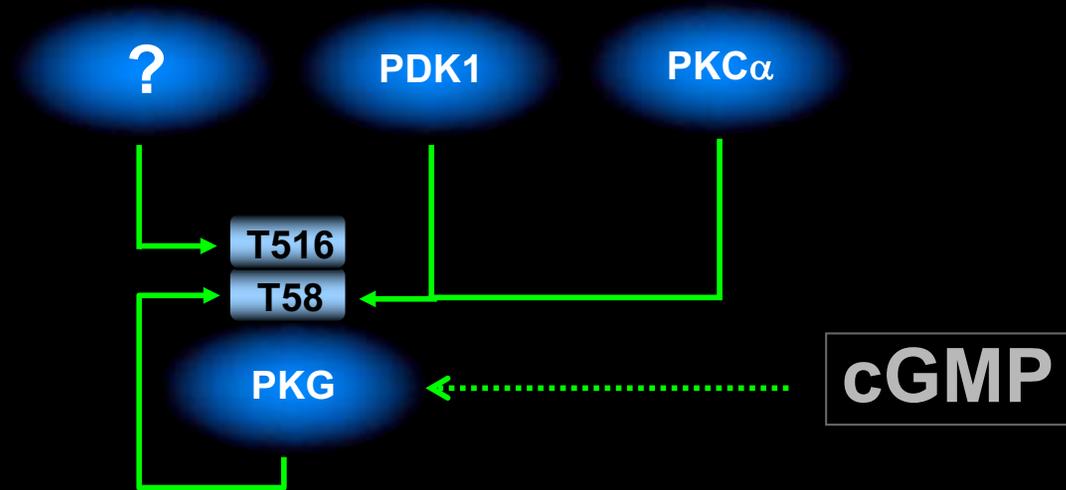
PDE3

cGMP-inhibited PDE

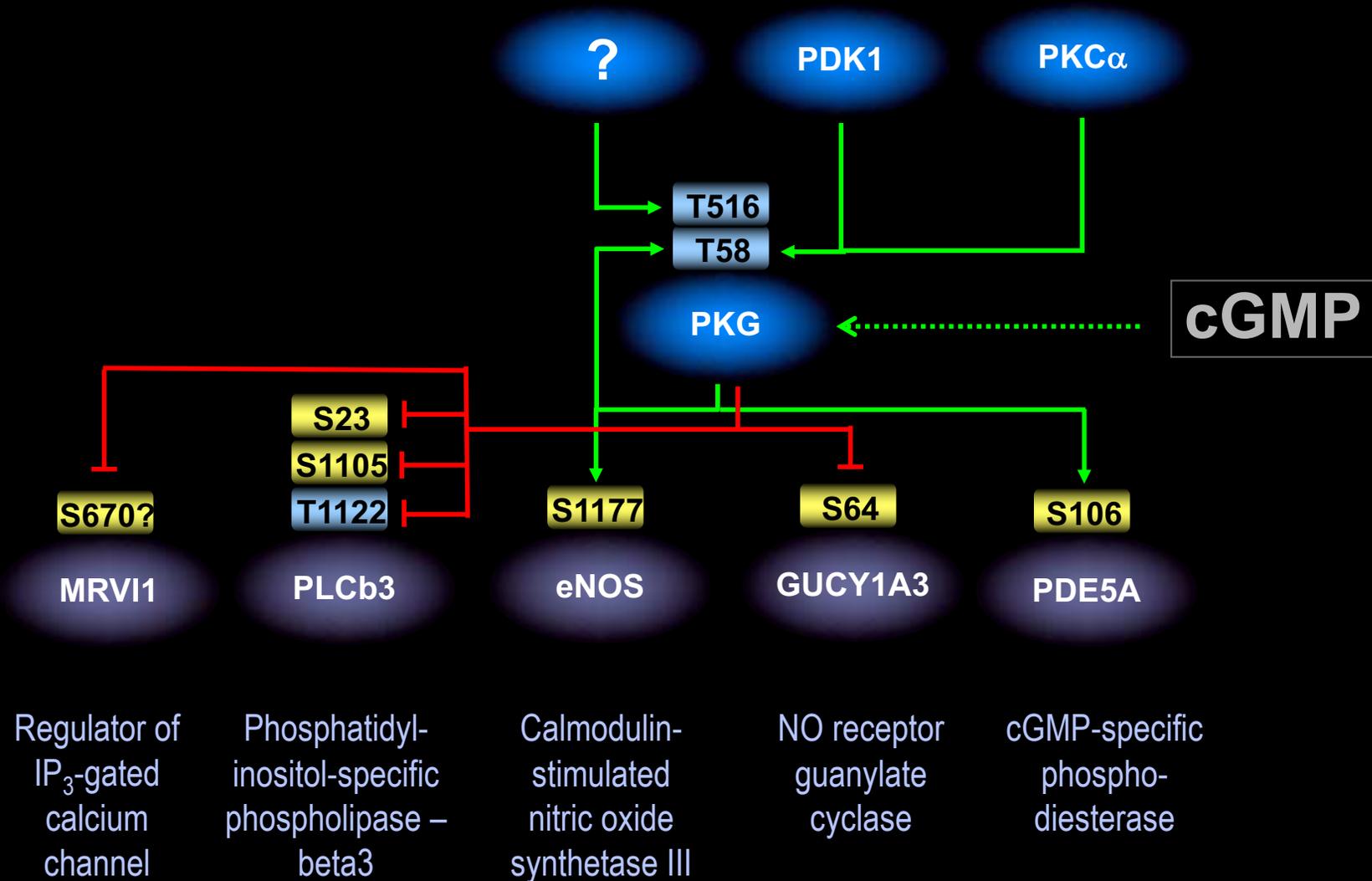
PDE2

cGMP-stimulated PDE

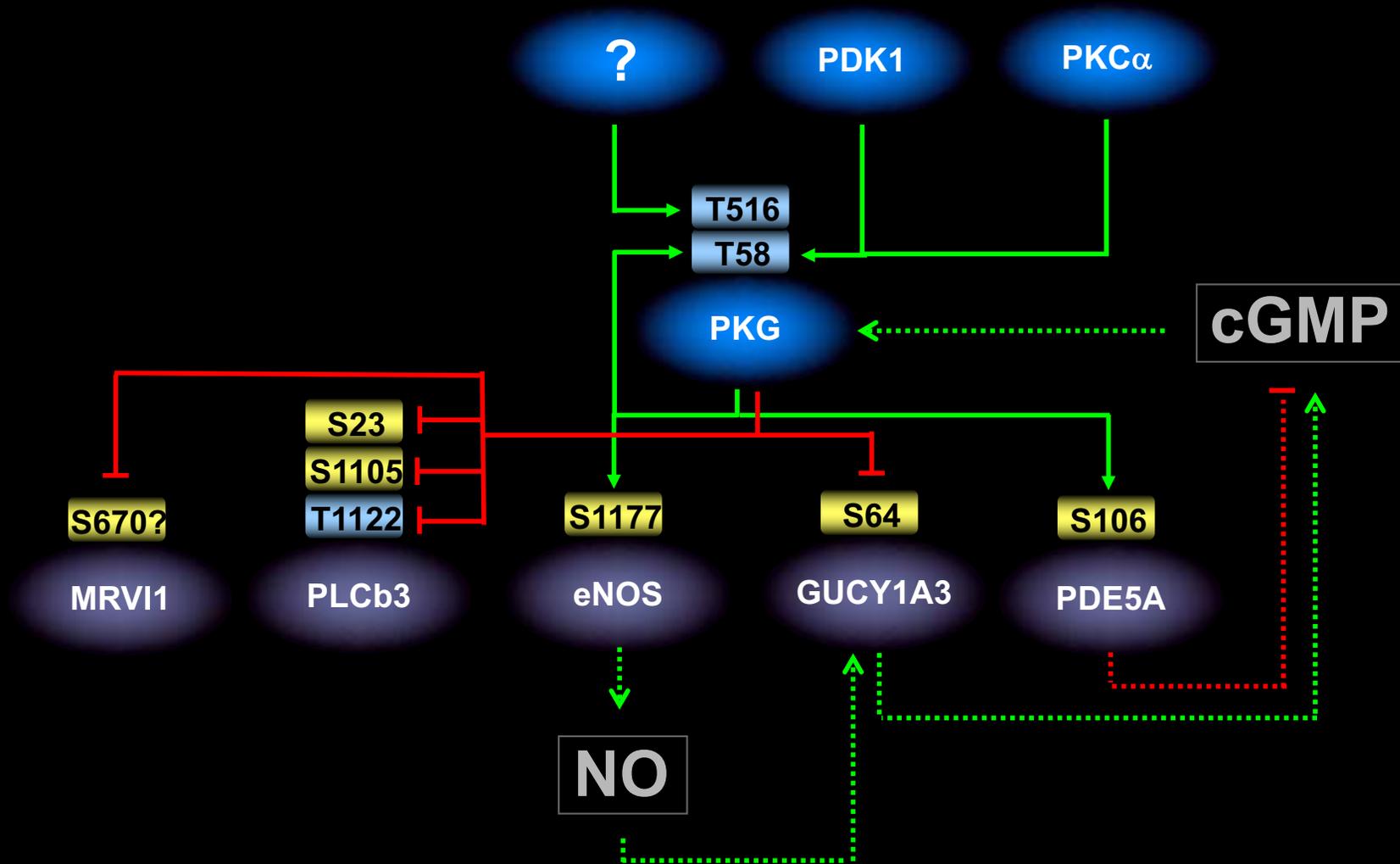
PKG Signalling



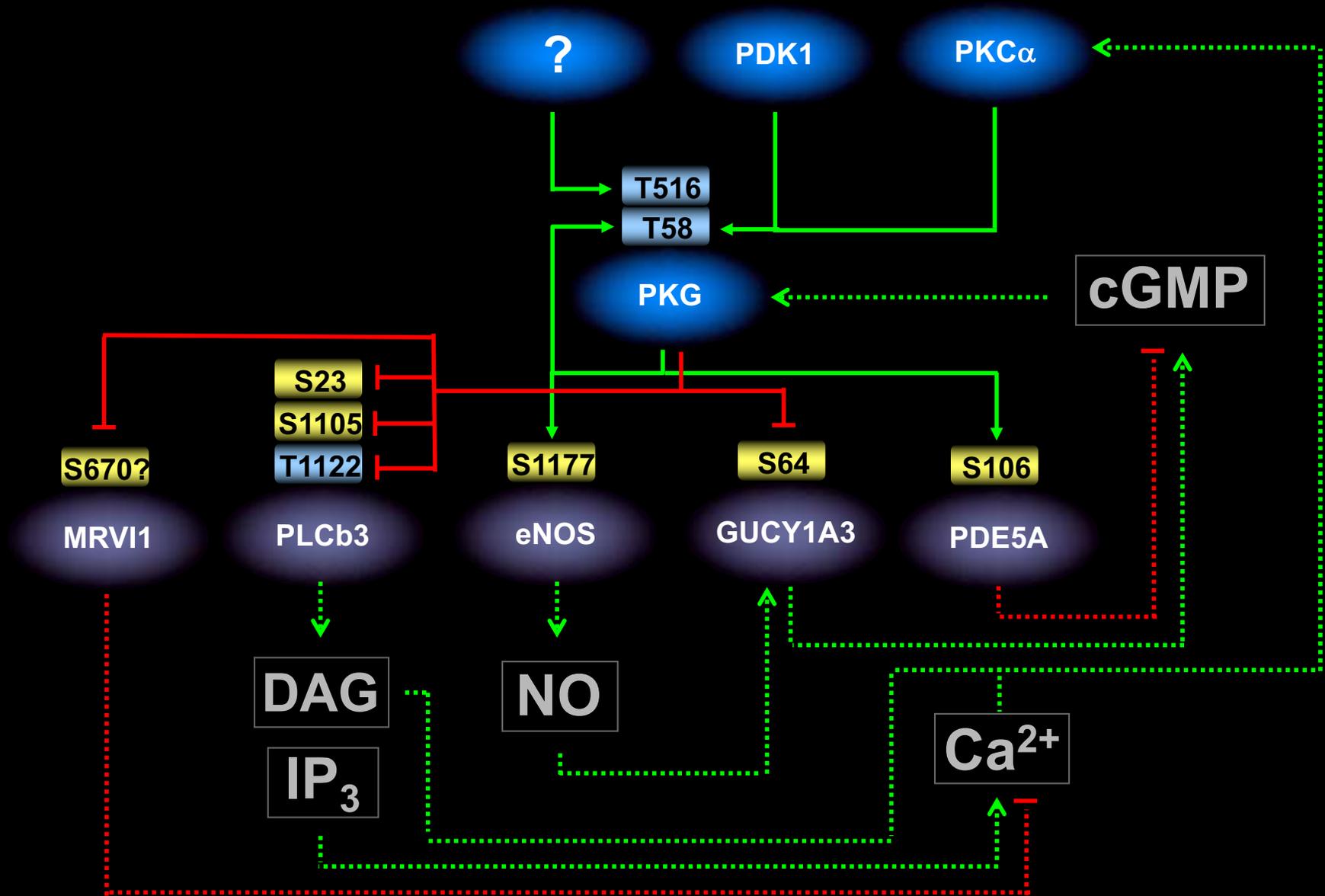
Targets of cGMP-dependent Protein Kinase (PKG)



PKG Signalling



PKG Signalling



Targets of cGMP-dependent Protein Kinase (PKG)

Substrate Short Name	Substrate Full Name	ProteinType	Substrate Swissprot	Phospho-site	Effect of Phosphorylation	Kinase Affecting	All Kinases Affecting	Phosphatase Affecting
eNOS	Endothelial nitric oxide synthetase	Synthetase	P29474	S1177	Phosphorylation increases enzymatic activity of eNOS.	PKG1	PKACa, PKBa/Akt1, PKG1	
GUCY1A3	Soluble guanylate cyclase	Cyclase	Q02108	S64	Phosphorylation inhibits cyclase activity.	PKG1	PKG1	
PDE5A	cGMP phosphodiesterase 5	Phosphodiesterase	O76074	S106	Phosphorylation increases phosphodiesterase activity.	PKG1	PKACa, PKG1	PPP1CA
PKG1	cGMP-dependent protein kinase 1, alpha	Protein-serine kinase, AGC group, PKG family	Q13976	T58	Phosphorylation increases phosphotransferase activity and affinity for cGMP	PKG1	PKCa, PKG1	
PLCB3	1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 3	Enzyme, phospholipid phospholipase C, phosphatidylinositol-specific	Q01970	S1105	Phosphorylation inhibits of G-protein-activated PLC-beta3 activity.	PKG1	PKG1	
PLCB3	1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 3	Enzyme, phospholipid phospholipase C, phosphatidylinositol-specific	Q01970	S26	Phosphorylation inhibits of G-protein-activated PLC-beta3 activity.	PKG1	PKG1	
PLCB3	1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 3	Enzyme, phospholipid phospholipase C, phosphatidylinositol-specific	Q01970	T1122	Phosphorylation inhibits of G-protein-activated PLC-beta3 activity.	PKG1	PKG1	
PKG1	cGMP-dependent protein kinase 1, alpha	Protein-serine kinase, AGC group, PKG family	Q13976	T516	Phosphorylation increases phosphotransferase activity.	?	?	
MRIV1	IP3 receptor-associated cGMP-dep. protein kinase substrate	Regulatory binding protein	Q9Y6F6	S670 ?	Phosphorylation inhibits calcium release from IP3-gated calcium channels		PKG1	