

Table S6. Summary of phenotypic values, variability thresholds and distribution of V_A/V_G ratios for the cAMP model [21]. The first three columns list the phenotype abbreviations used in this study, a text description of the phenotypes and their units. The thresholds used to filter out datasets with very low relative and/or absolute variability are listed in the next two columns, followed by the number of Monte Carlo simulations (out of 1000) passing the threshold. The last 7 columns contain quantiles and means of the V_A/V_G values for the datasets passing the variability threshold.

Phenotype	Description	Units	Variability threshold		# of valid datasets	Quantiles and mean values of V_A/V_G						
			rel.	abs.		Q _{0.05}	Q _{0.1}	Q _{0.2}	Q _{0.3}	Q _{0.5}	Q _{0.8}	mean
cAMP	cAMP steady state concentration (SSC) before adding glucose	mM	0.01	1e-8	866	0.98	0.99	0.99	0.99	0.99	1	0.99
cAMPt	Time to peak concentration (PC) of cAMP	Seconds	0.01	1	879	0.97	0.98	0.98	0.99	0.99	1	0.99
cAMPv	PC of cAMP after adding glucose	mM	0.01	1e-8	983	0.98	0.99	0.99	0.99	1	1	0.99
Cdc25	SSC of Cdc25 before adding glucose	mM	0.01	1e-8	838	0.98	0.99	0.99	0.99	0.99	1	0.99
Cdc25t	Time to PC of Cdc25	Seconds	0.01	1	986	0.99	0.99	0.99	0.99	1	1	1
Cdc25v	PC of Cdc25 after adding glucose	mM	0.01	1e-8	951	0.98	0.99	0.99	0.99	0.99	1	0.99
Gpa2at	Time to PC of G-protein Gpa2a	Seconds	0.01	1	782	0.98	0.98	0.98	0.99	0.99	1	0.99
Gpa2av	PC of Gpa2a after adding glucose	mM	0.01	1e-8	890	0.98	0.99	0.99	0.99	1	1	0.99
Krht	Time to PC of Krh	Seconds	0.01	1	785	0.98	0.98	0.98	0.99	0.99	1	0.99
Krvh	PC of Krh after adding glucose	mM	0.01	1e-8	803	0.98	0.99	0.99	0.99	0.99	1	0.99
Pde1t	Time to PC of Pde1	Seconds	0.01	1	961	0.97	0.98	0.99	0.99	0.99	1	0.99
Pde1v	PC of Pde1 after adding glucose	mM	0.01	1e-8	724	0.98	0.98	0.99	0.99	0.99	1	0.99
PKAi	SSC of PKA before adding glucose	mM	0.01	1e-8	622	0.98	0.99	0.99	0.99	0.99	1	0.99
PKAit	Time to PC of Protein kinase A	Seconds	0.01	1	964	0.97	0.98	0.99	0.99	0.99	1	0.99
PKAiv	PC of PKA after adding glucose	mM	0.01	1e-8	998	0.98	0.99	0.99	0.99	0.99	1	0.99
Ras2a	SSC of Ras2a before adding glucose	mM	0.01	1e-8	846	0.98	0.99	0.99	0.99	0.99	1	0.99
Ras2at	Time to PC of Ras2a	Seconds	0.01	1	937	0.98	0.99	0.99	0.99	0.99	1	0.99
Ras2av	PC of Ras2a after adding glucose	mM	0.01	1e-8	865	0.98	0.99	0.99	0.99	0.99	1	0.99