Module	Reaction	Description
EGFR turnover	R10: $(\text{pEGFR:EGF})_2 \rightarrow (\text{pEGFR:EGF})_{2,\text{endocytic vesicle}}$	Endocytosis of pEGFR
	R14: $(\text{pEGFR:EGF})_{2,\text{endocytic vesicle}} \rightarrow \emptyset$	Lysosomal degradation of endocyted pEGFR
	R2: $\text{EGFR} \rightarrow \emptyset$ R5: $\text{EGFR:CET} \rightarrow \emptyset$ R12: $\text{EGFR:EGF} \rightarrow \emptyset$ R13: $(\text{EGFR:EGF})_2 \rightarrow \emptyset$	Basal membrane turnover
	R11: $(\text{pEGFR:EGF})_{2,\text{endocytic vesicle}} \rightarrow \text{EGFR} + \text{EGFR}$	EGFR recycling endosomes
RAS-MAPK signaling	R39: $\text{RAS-GDP} \rightarrow \text{RAS-GTP}$	Basal activation of RAS
	R40: $\text{RAS-GDP} + (\text{pEGFR:EGF})_2 \rightarrow$ $\rightarrow \text{RAS-GTP} + (\text{pEGFR:EGF})_2$ R41: $\text{RAS-GDP} + (\text{pEGFR:EGF})_{2,\text{endocytic vesicle}} \rightarrow$ $\rightarrow \text{RAS-GTP} + (\text{pEGFR:EGF})_{2,\text{endocytic vesicle}}$	EGFR dependent activation of RAS
	R46: $\text{RAS-GTP} \rightarrow \text{RAS-GDP}$	Basal GTPase activity of RAS
	R47: $\text{ERK} + \text{RAS-GTP} \rightarrow \text{pERK} + \text{RAS-GDP}$	RAS dependent activation of MAPK
PI3K-AKT signaling	R65: $\text{AKT} + \text{pPI3K} \rightarrow \text{pAKT} + \text{pPI3K}$ R66: $\text{AKT} + \text{pMPI3K} \rightarrow \text{pAKT} + \text{pMPI3K}$	PI3K and MPI3K dependent activation of AKT
	R67: $\text{pAKT} \rightarrow \text{AKT}$	Basal dephosphorylation of pAKT
	R56: $\text{pPI3K} \rightarrow \text{PI3K}$ R64: $\text{pMPI3K} \rightarrow \text{MPI3K}$	Basal dephosphorylation of pPI3K and pMPI3K