

Supplementary materials

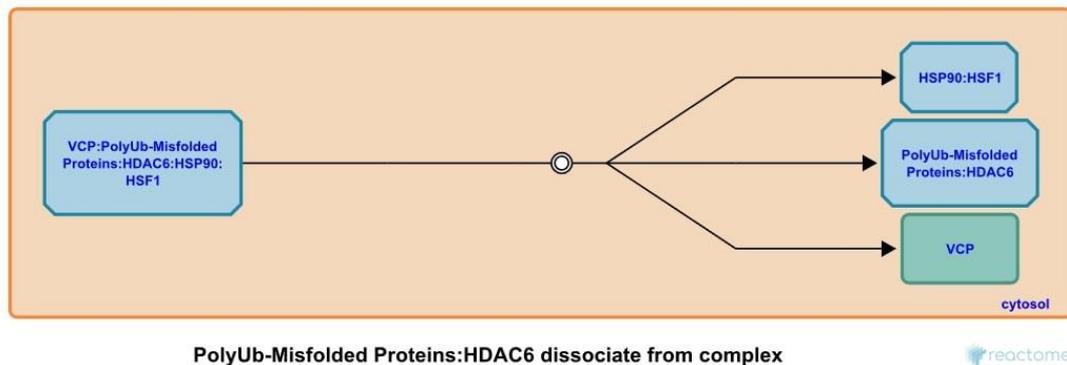
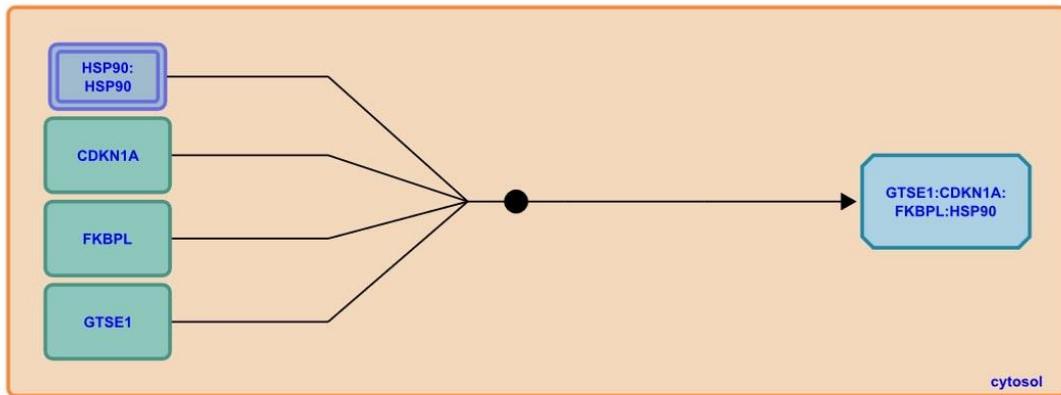


Figure S1. A brief of HSP90 participating in aggrephagy pathway. Indicating dissociation of HSP90 complex after correcting the aggregated/misfolded proteins. (Image for “PolyUb-Misfolded Proteins: HDAC6 dissociate from complex”. Reactome, 86, <https://reactome.org/content/detail/R-HSA-9646354> with StableID: R-HSA-9646354 (Sat Nov 04 2023)).



GTSE1 binds CDKN1A

reactome

Figure S2. A brief of HSP90 participating in cell cycle pathway, where it forms complex with CDKN1A, FKBPL, GTSE1 to prevent defective cell formation. (Image for “The role of GTSE1 in G2/M progression after G2 checkpoint”. Reactome, 86, <https://reactome.org/content/detail/R-HSA-8852362> with StableID: R-HSA-8852362 (Sat Nov 04 2023))

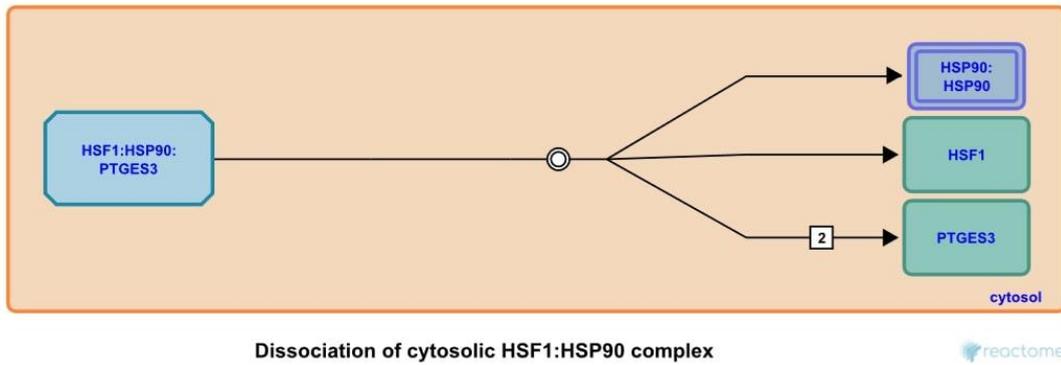
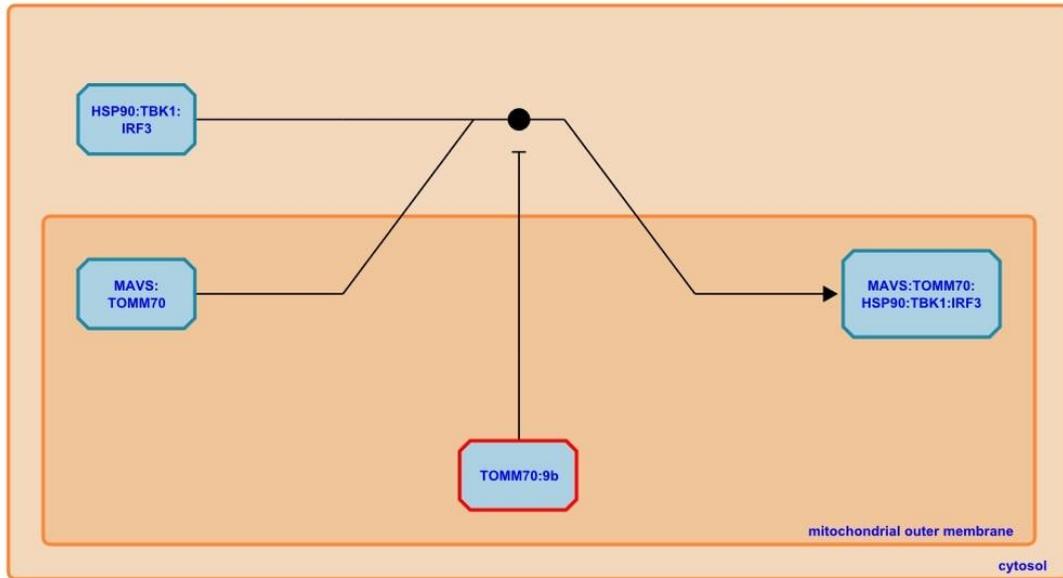


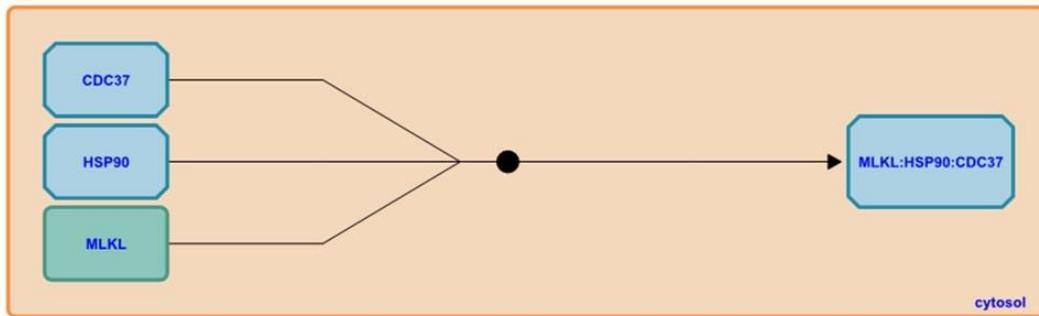
Figure S3. A brief of HSP90 participating in response to external stimuli pathway, where it dissociates from stable complex under stress and corrects the misfoldings and aggregation. HSF1 parallelly activates transcription factors. (Image for “Dissociation of cytosolic HSF1:HSP90 complex”. Reactome, 86, <https://reactome.org/content/detail/R-HSA-3371586> with StableID: R-HSA-3371586 (Sat Nov 04 2023))



MAVS:TOMM70 recruits HSP90:TBK1:IRF3

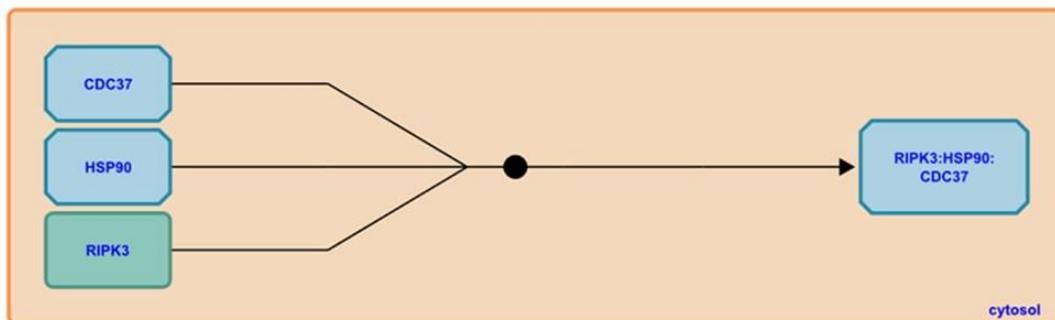
reactome

Figure S4. A brief of HSP90 participating in immune system pathway by forming a complex with TBK1, IRF3, MAVS and TOMM70 to activate host anti-viral response in mitochondrial membrane. (Image for “MAVS:TOMM70 recruits HSP90:TBK1:IRF3”. Reactome, 86, <https://reactome.org/content/detail/R-HSA-9709852> with StableID: R-HSA-9709852 (Sat Nov 04 2023)).



(a) MLKL binds HSP90:CDC37

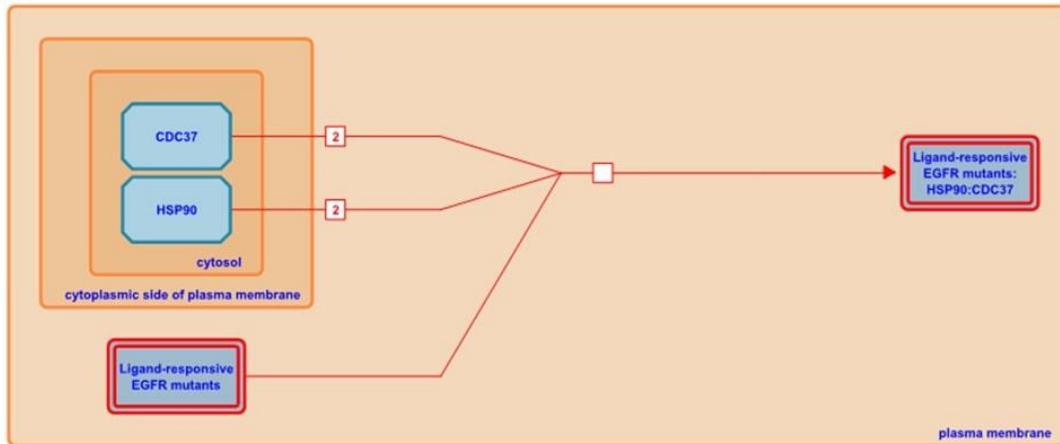
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(b) RIPK3 binds HSP90:CDC37

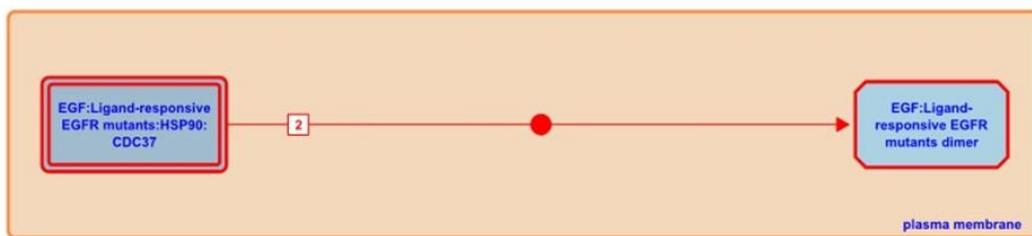
reactome

Figure S5. (a) A brief of HSP90 participating in programmed cell death pathway by forming complex with MLKL to destabilize the membrane, thus leading to cell death. (Image for “Regulation of necroptotic cell death”. Reactome, 86, <https://reactome.org/content/detail/R-HSA-9698844> with StableID: R-HSA-9698844 (Sat Nov 04 2023)); and (b) similarly forms complex with RIPK3 to regulate necrosis by activating RIPK3. (Image for “Regulation of necroptotic cell death”. Reactome, 86, <https://reactome.org/content/detail/R-HSA-9688459> with StableID: R-HSA-9688459 (Sat Nov 04 2023)).



(a) Binding of ligand-responsive EGFR mutants to chaperoning proteins HSP90 and CDC37

reactome



(b) EGF-induced dimerization of ligand-responsive EGFR mutants

reactome

Figure S6. A brief of HSP90 participating in EGFR mutant dimerformation to further activate the signalling cascades. (a) HSP90 and CDC37 combines together with the ligand-responsive EGFR mutants to chaperoning proteins HSP90 and CDC37". Reactome, 86, <https://reactome.org/content/detail/R-HSA-1218833> with StableID: R-HSA-1218833 (Sat Nov 04 2023)); and (b) EGFR complex forms dimer to activate signalling cascades. (Image for "EGF-induced dimerization of ligand responsive EGFR mutants". Reactome, 86, <https://reactome.org/content/detail/R-HSA-1220613> with StableID: R-HSA-1220613 (Sat Nov 04 2023)).

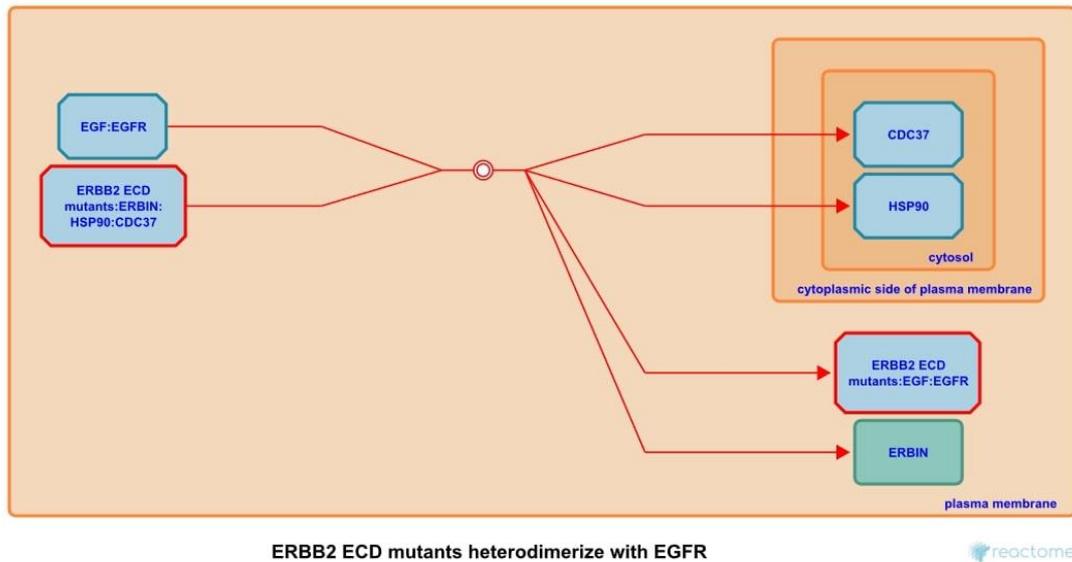


Figure S7. A brief of HSP90 participating in cancer cell signalling pathway by dissociating from HER2/ERBB2 complex and letting it to dimerize and further activating signalling cascades. (Image for “ERBB2 ECD mutants heterodimerize with EGFR”. Reactome, 86, <https://reactome.org/content/detail/R-HSA-9665388> with StableID: R-HSA-9665388 (Sat Nov 04 2023)).

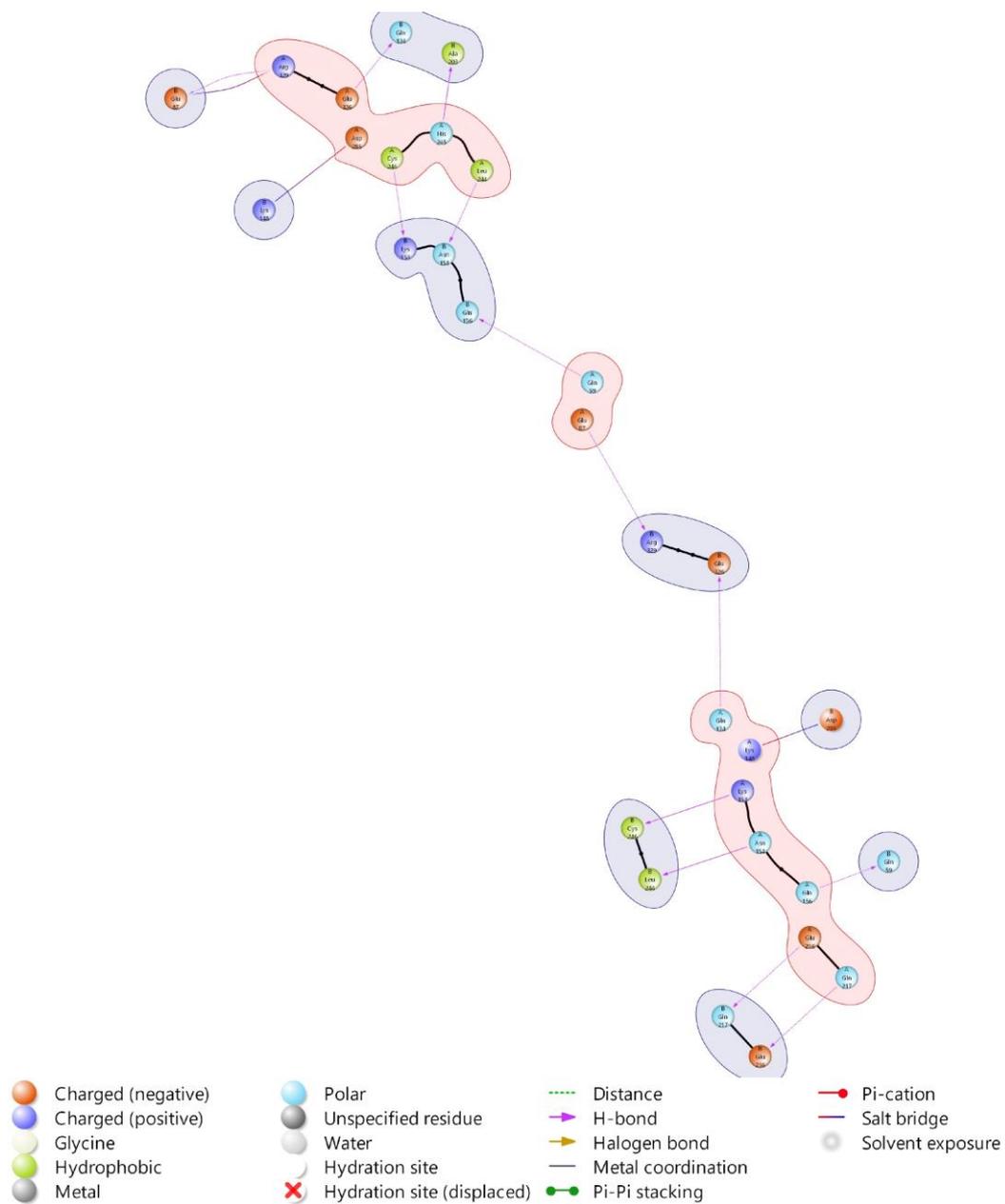


Figure S8. Diagrammatic representation of cancer HER2/ERBB2 dimer interaction (PDB ID-3WLW) (Using Schrödinger Release 2023-4: BioLuminate, Schrödinger, LLC, New York, NY, 2023).