Higher order assembly of MAP kinase based protein-protein complexes

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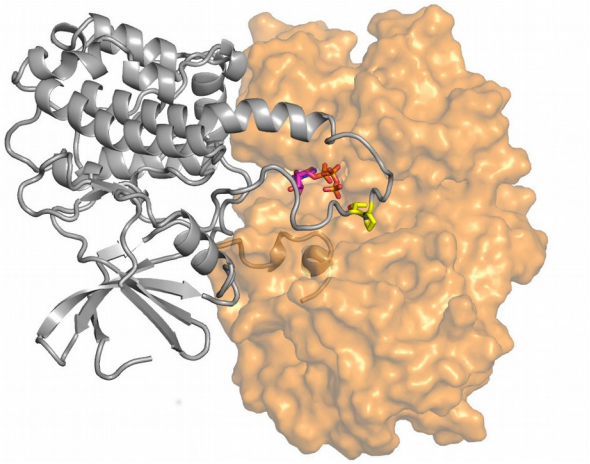
Mitogen-activated protein kinases (MAPKs) are ubiquitous signaling enzymes involved in cellular life and death decisions. They exert their effect on other proteins phosphorylating them on specific sites. These phosphorylation events then will cause their substrate proteins to change their function leading to specific changes in the cells' behavior. In the past years, we explored how MAPKs can form specific signaling complexes with their partner proteins (Zeke et al, 2015; Alexa et al, 2015). Structural and biochemical characterization of MAPK involving signaling complexes – in particular those that MAPKs form with their downstream substrate kinases, MAPK activated protein kinases (MAPKAPK) - suggest that these complexes change their quaternary structures upon activation, which may be exploited for specific blocking of MAPK related signaling activities.



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