

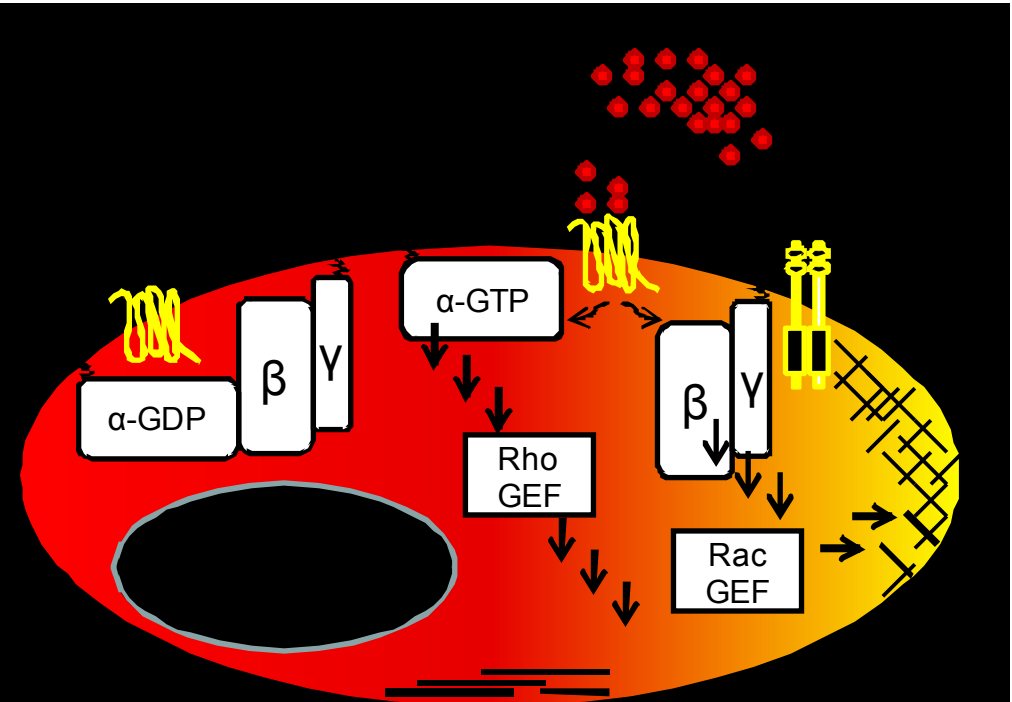
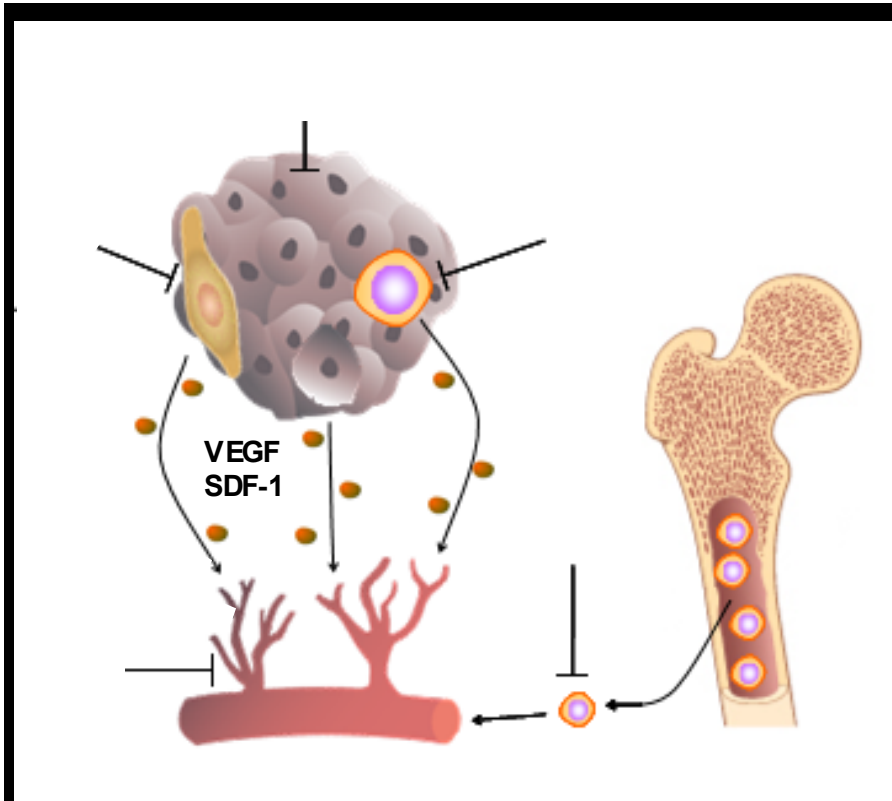
Guanine Nucleotide Exchange Factors for Rho GTPases in endothelial cells: Critical transducers of angiogenic signals



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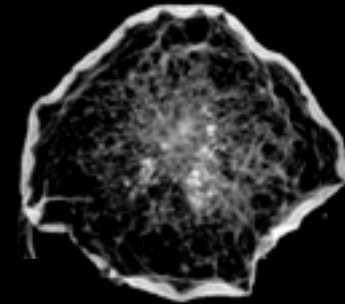
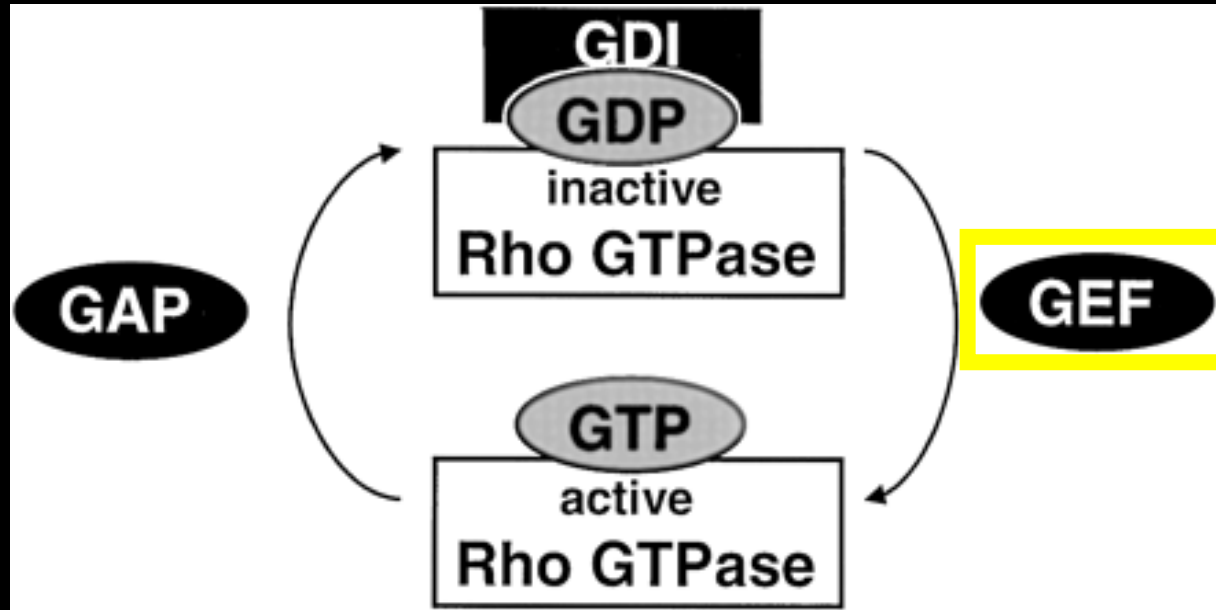
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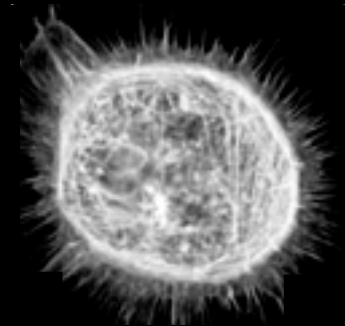
Tumor induced angiogenesis requires endothelial cell migration

Endothelial RhoGEFs are potential targets to interfere with tumor induced angiogenesis

Rho GTPases: Promote actin polymerization and cell migration



Rac



Cdc42



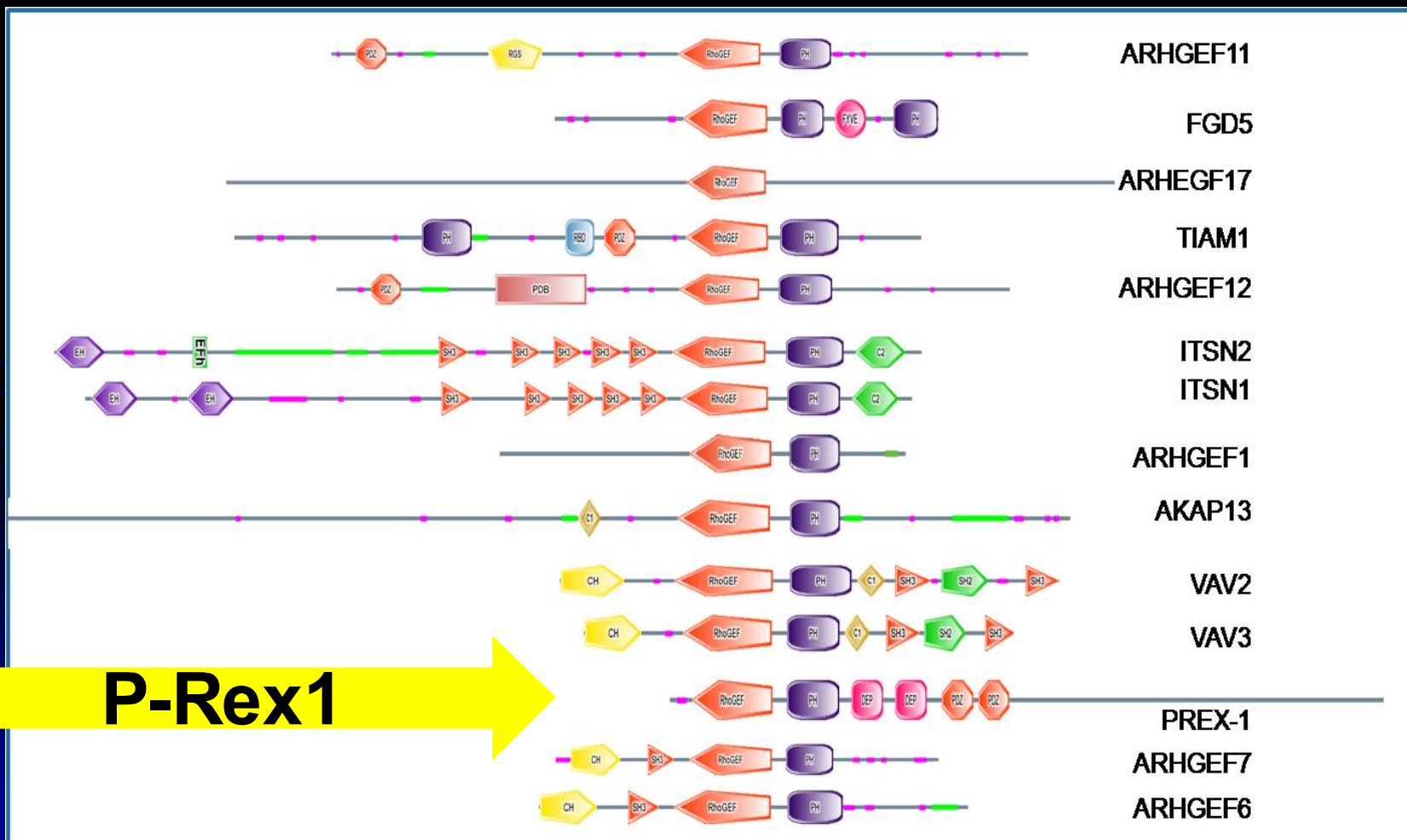
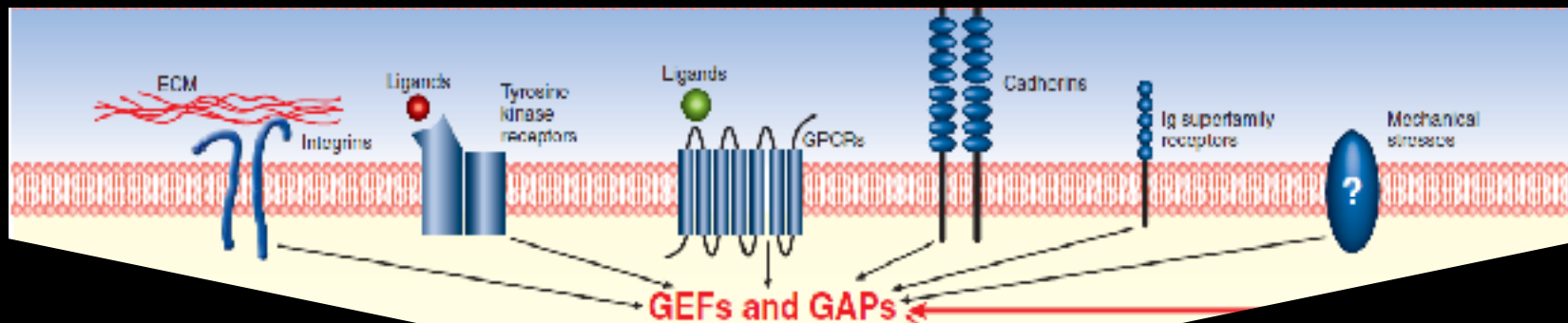
Rho

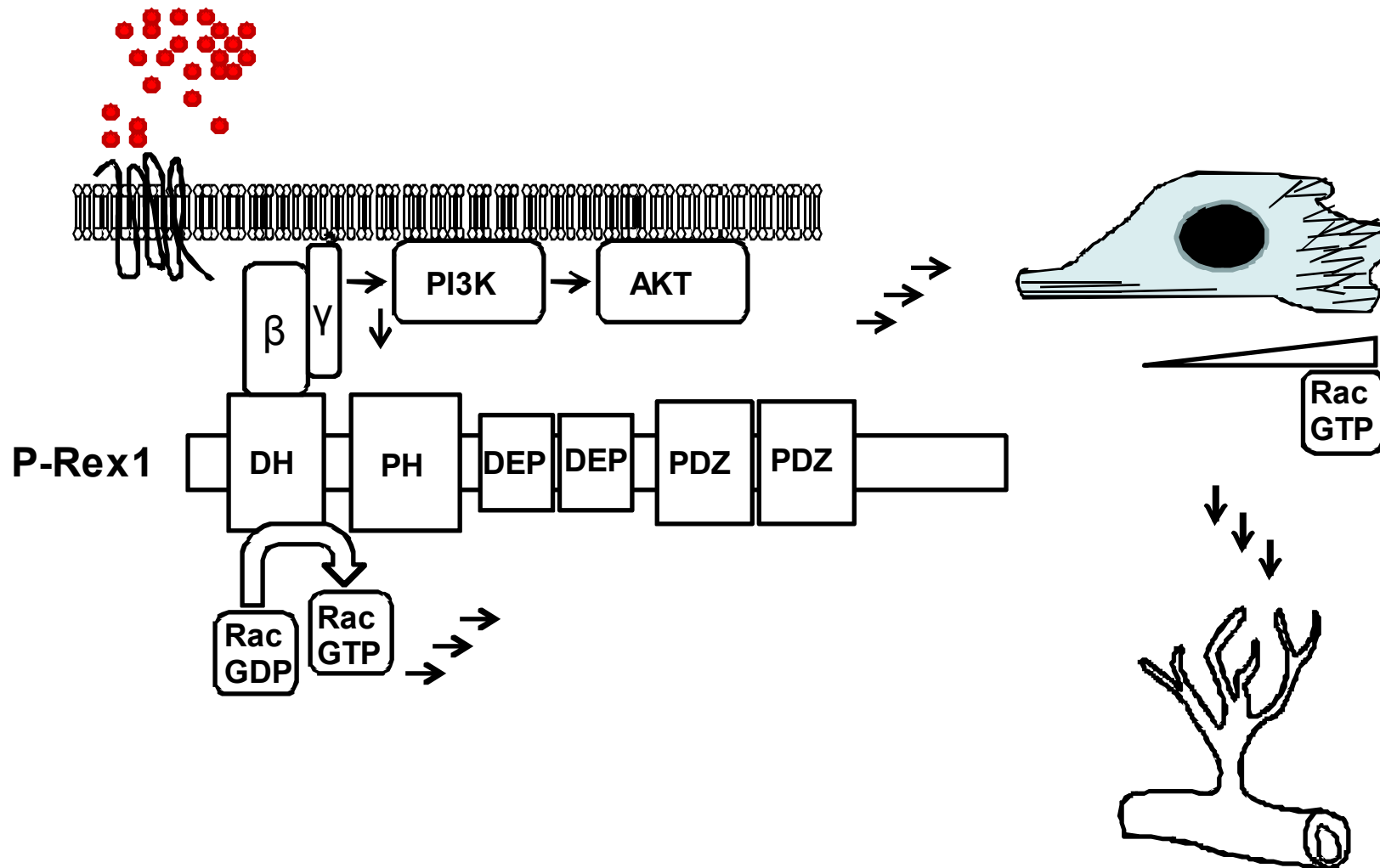
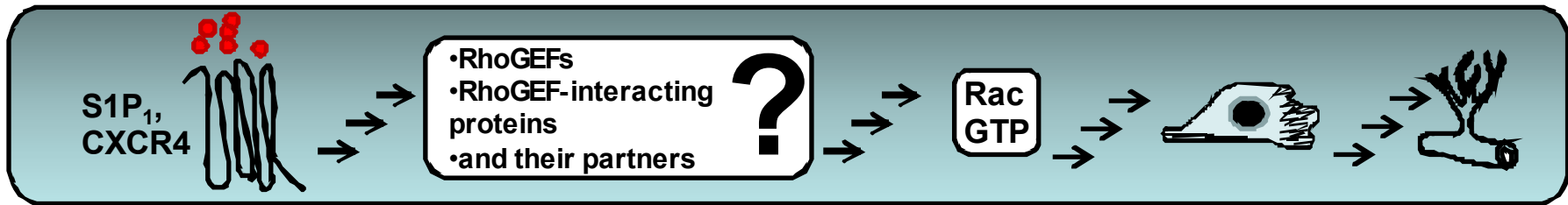
61 human RhoGEFs

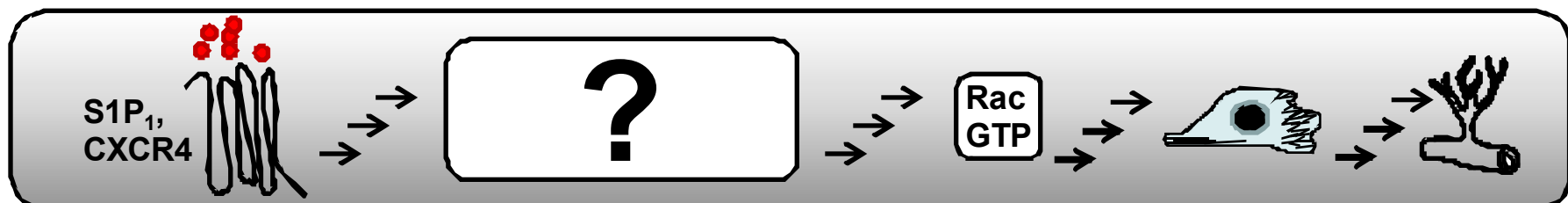
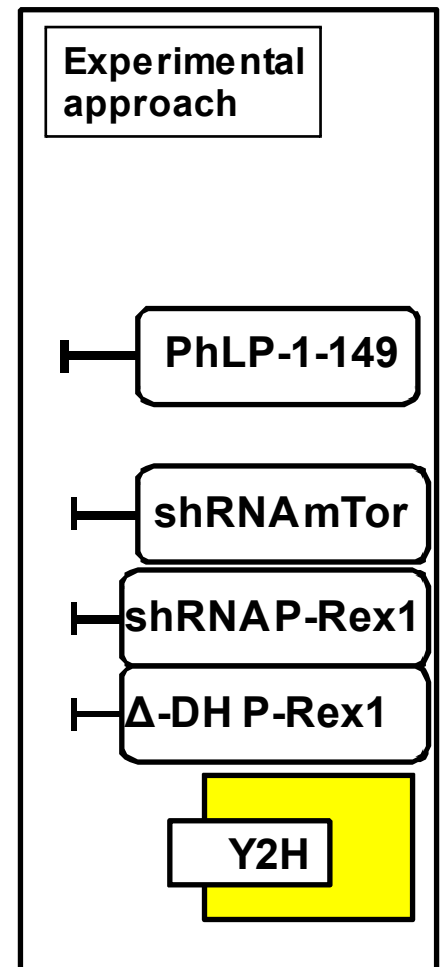
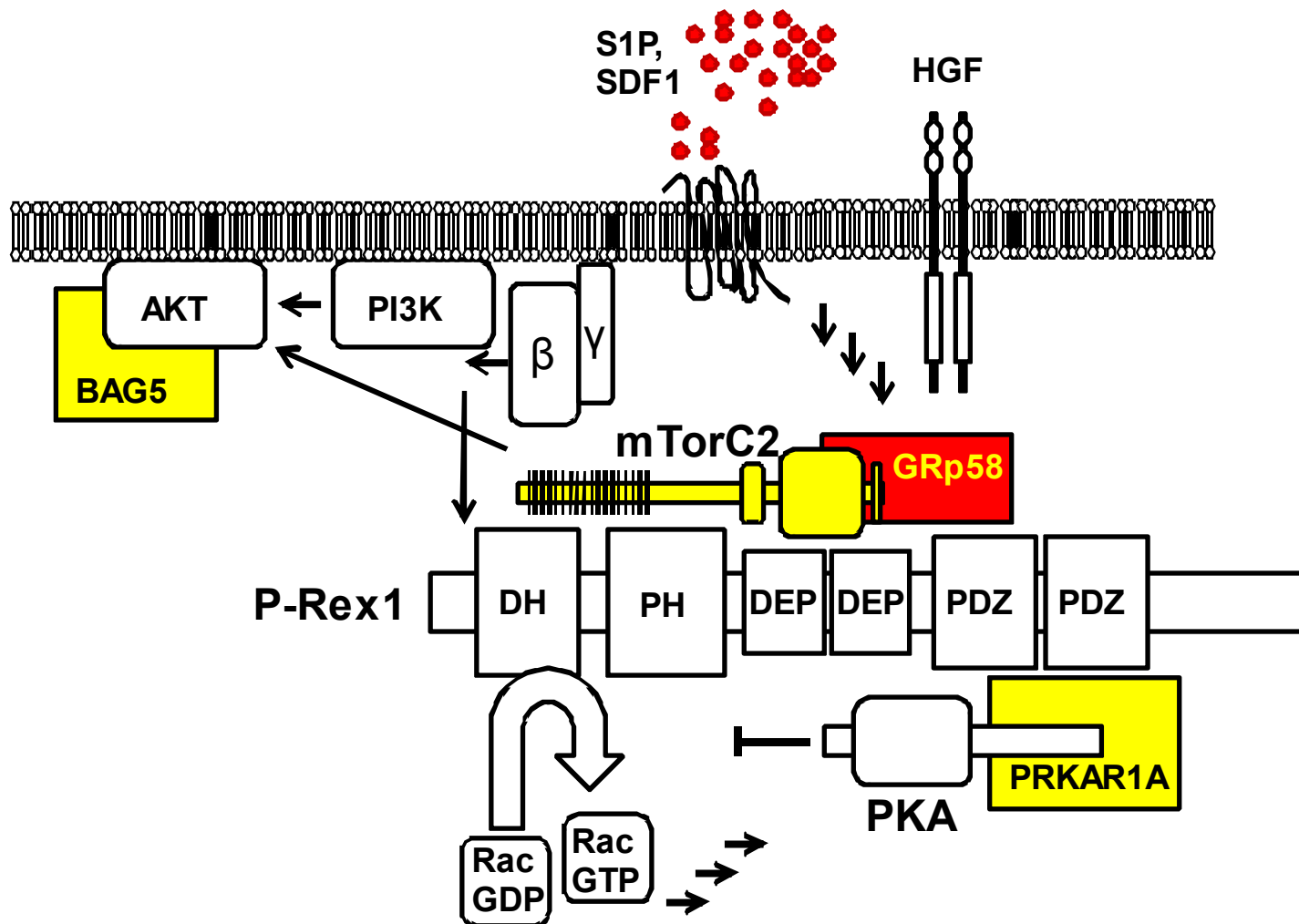
(<http://smart.embl-heidelberg.de/>).

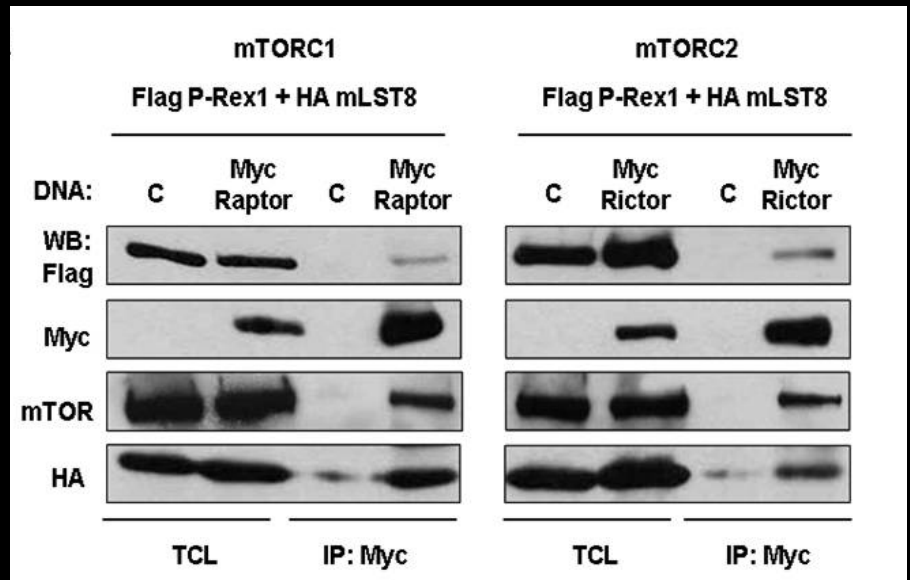
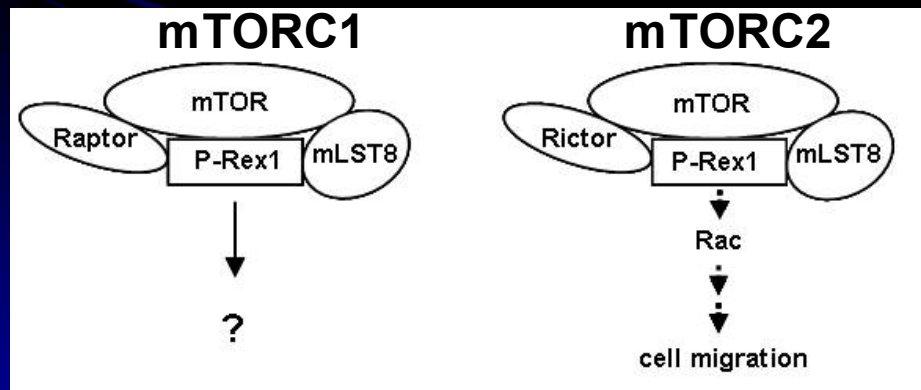
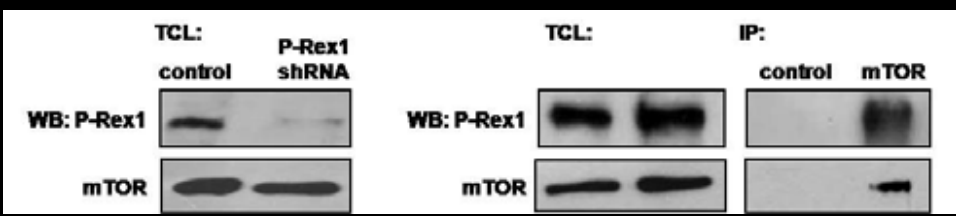
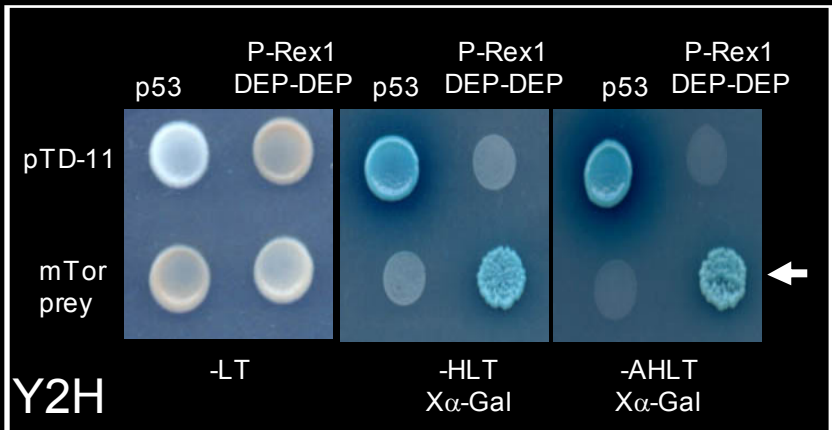
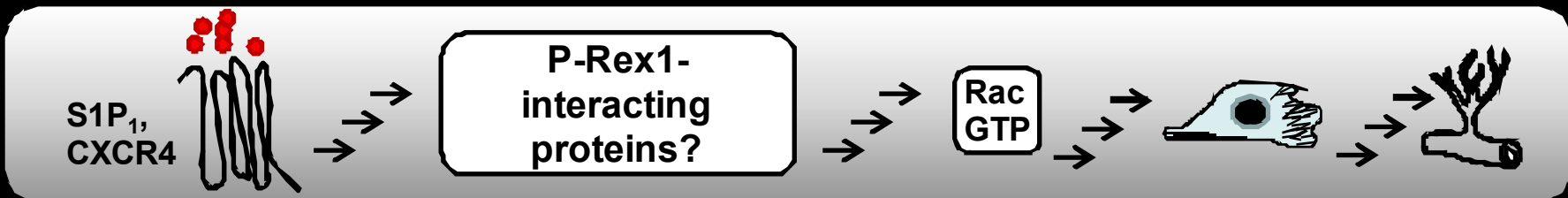
> 40 are expressed in endothelial cells.

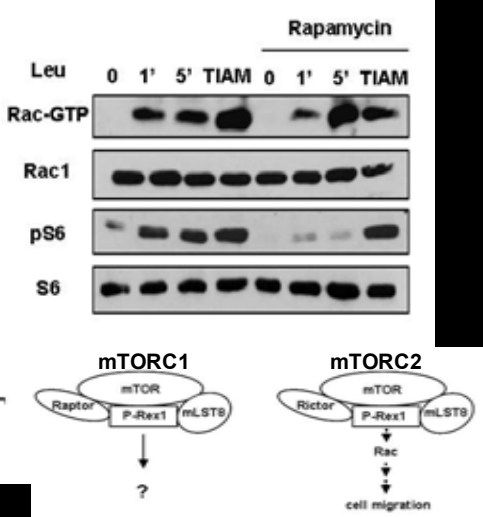
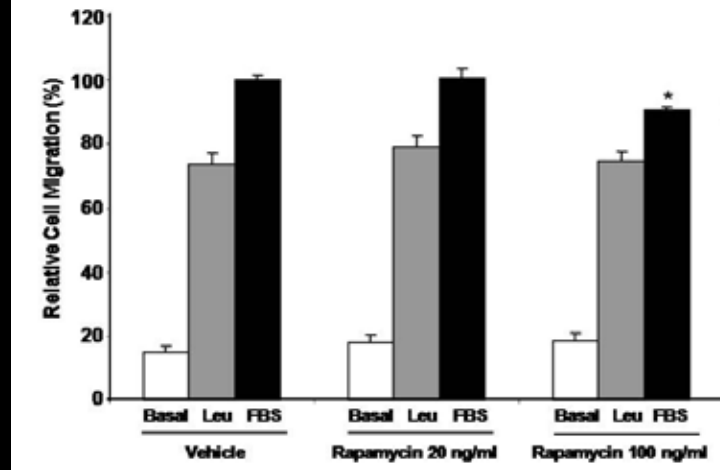
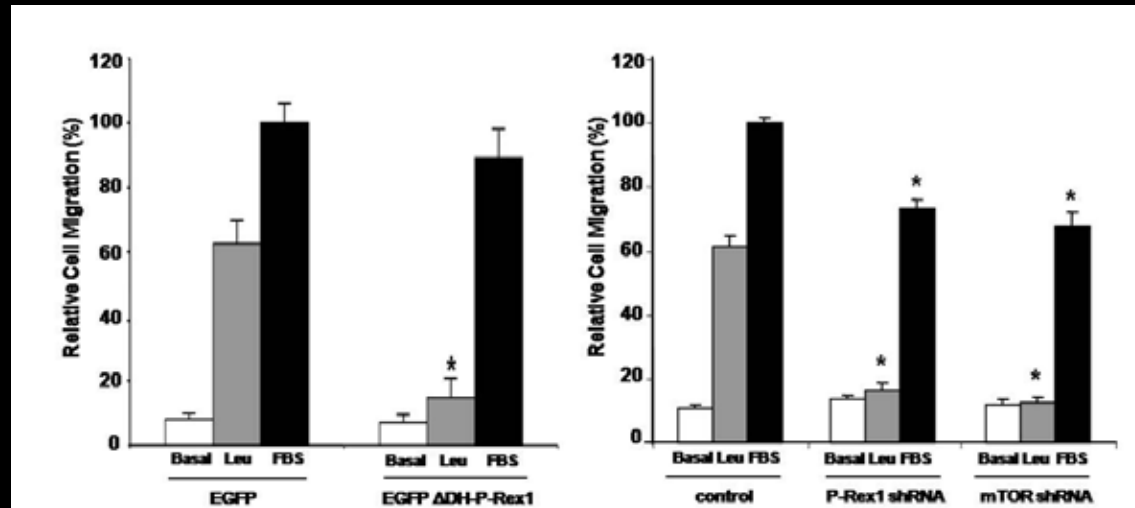
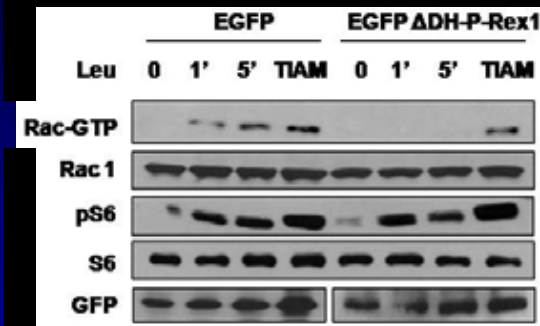
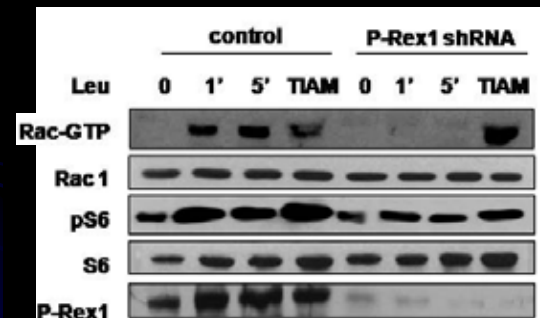
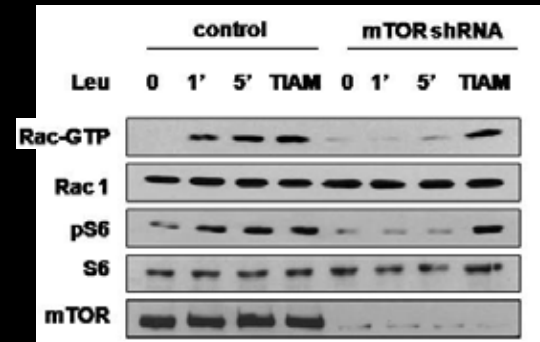
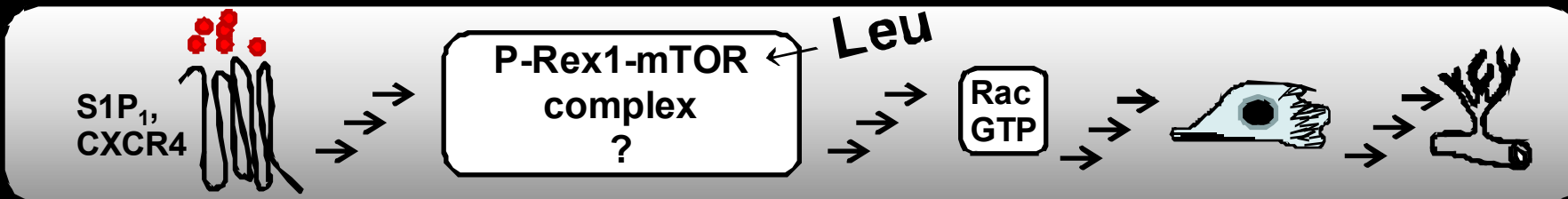
One of them is P-Rex1



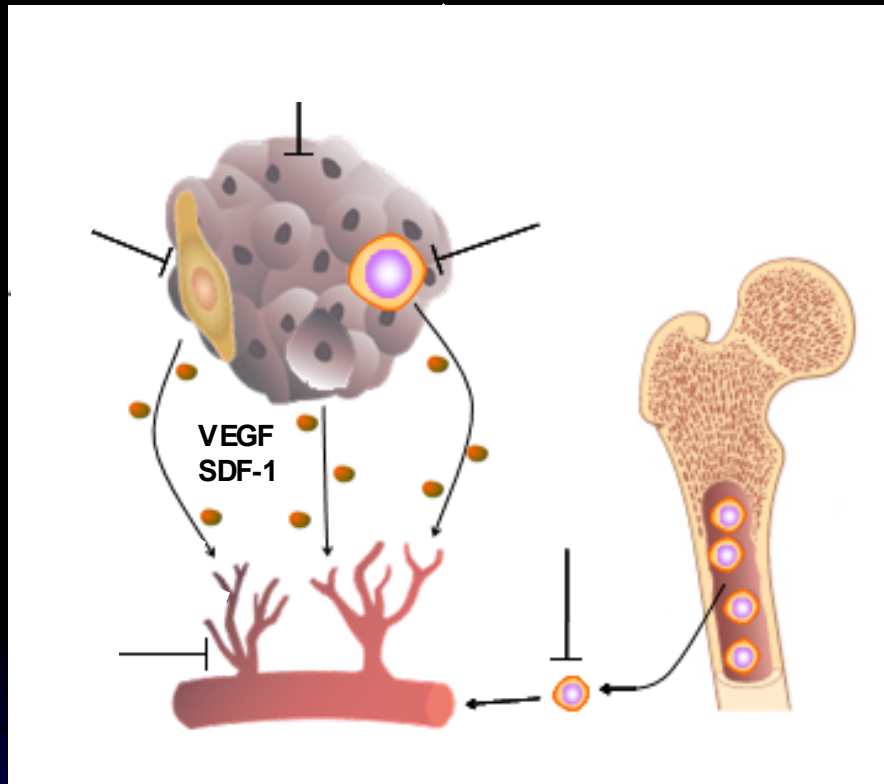




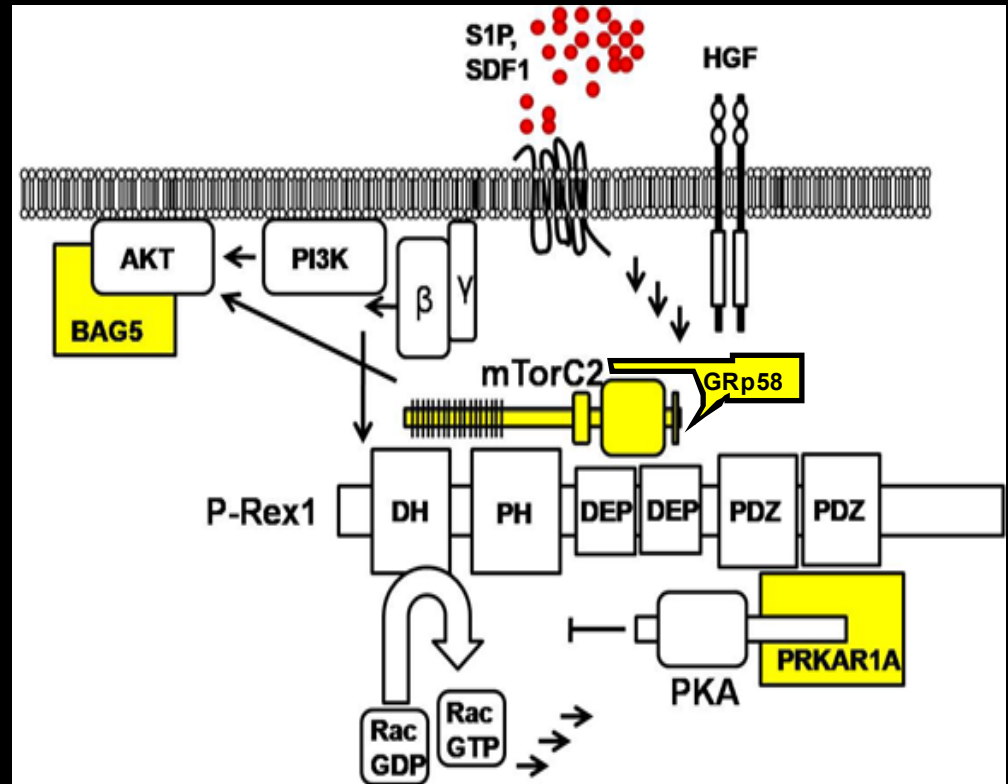




Conclusions:



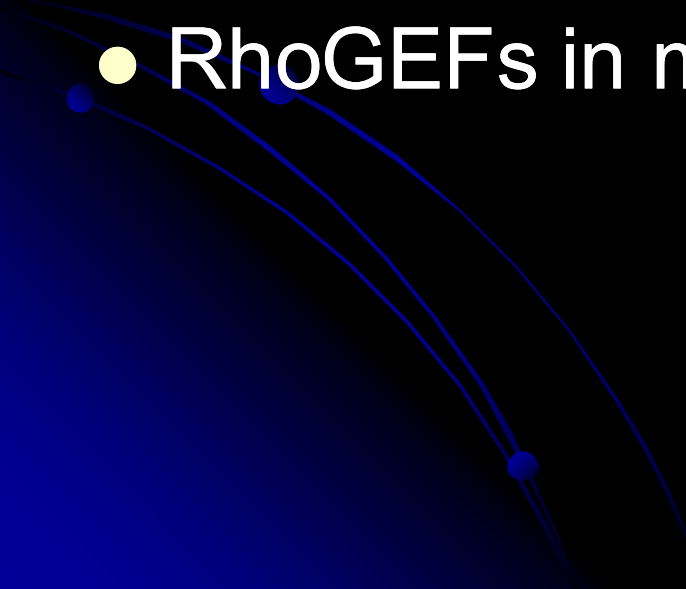
More than 40 RhoGEFs are expressed in endothelial cells, Their multidomain architecture suggest a potential role as signal integrators and therapeutic targets.



P-Rex1 plays a role in the signaling pathway downstream of SDF1/CXCR4 leading to Rac activation, cell migration and in vitro angiogenesis.

This GEFs is activated in response to $G\beta\gamma \rightarrow PI3K\gamma$ and $AKT \rightarrow mTor \rightarrow$

Future studies:

- Relevant protein-protein interactions in live cells.
 - RhoGEFs in endothelial cells from cancer patients?
 - RhoGEFs in mice models of cancer
- 

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