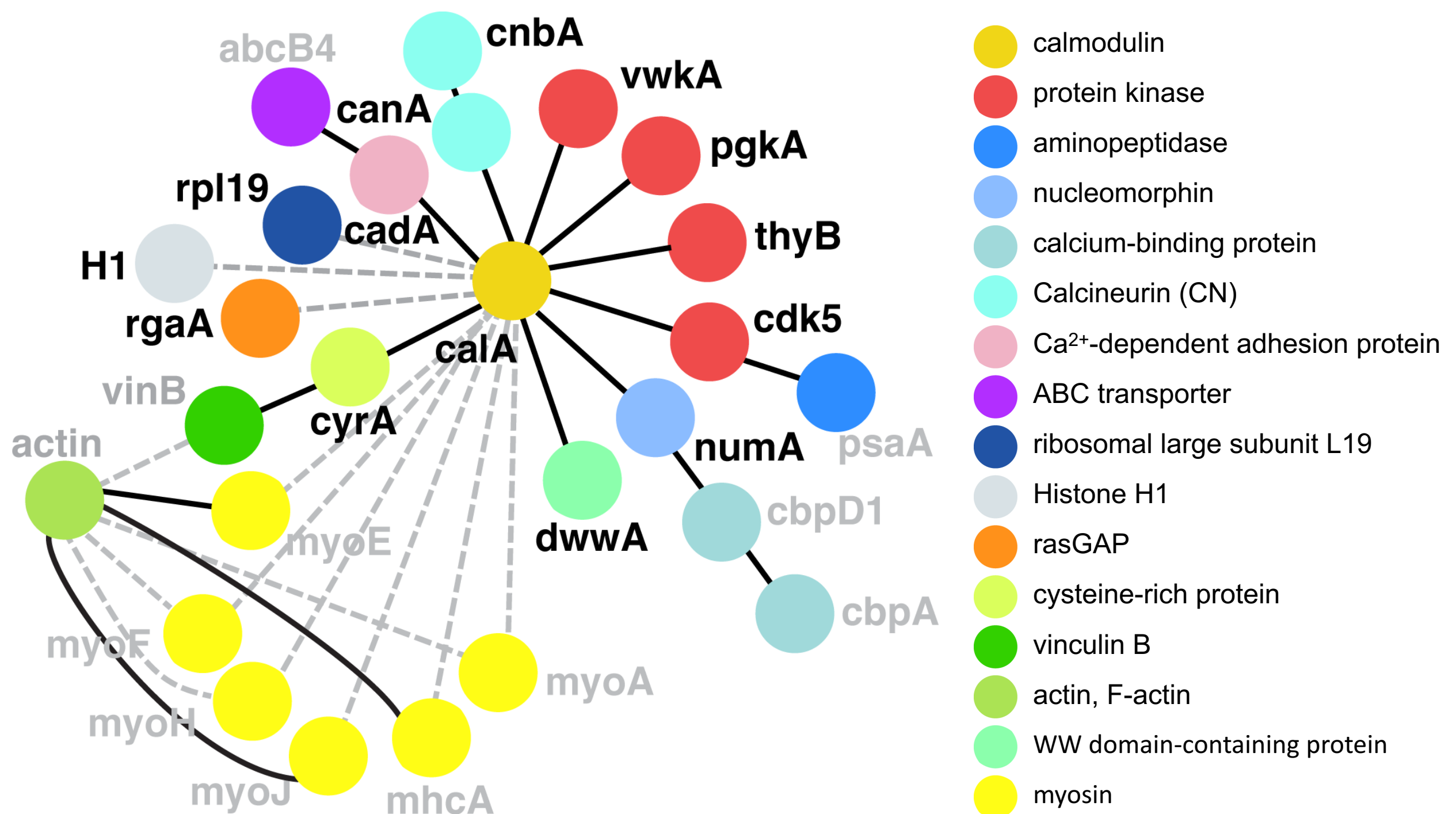


Protein-Protein Interactions



Graphic Visualization of Protein-Protein Interactions. This example illustrates the interactions of **calmodulin** (calA) with its binding partners and further interactions of some of its binding partners with other proteins. *Solid black lines* indicate an experimentally annotated physical interaction, whereas *gray dotted lines* represent electronically and manually inferred annotations. Names in *Black* are direct interacting partners of calmodulin while those in *gray* are either secondary partners or those of inferred direct binding. Note that this represents current annotations, and therefore is not likely to show the full range of calmodulin binding partners. To visualize interactions, we will use cytoscape (<http://cytoscape.org>), an open source software project for integrating biomolecular interaction networks. This allows visualization using different layouts. Also, all interaction data will be downloadable from dictyBase.

Graphical illustrations provide an opportunity to glean protein networks and allow inferring biological functions. While calmodulin has been well characterized, the visualized interactions with the cytoskeleton, the direct binding of several protein kinases and nuclear proteins, the binding of calcium-regulated proteins and the interactions with diverse other proteins illustrate the full complexity of the network. From this illustration alone we could infer the central role calmodulin plays in basic biological processes, such as cell growth and chemotaxis.