# GTPase activating protein

GTPase-Activating Proteins, or GAPs, or GTPase-Accelerating Proteins are a family of regulatory proteins whose members can bind to activated G proteins and stimulate their GTPase activity, with the result of terminating the signaling event.

GAPs are also known as RGS protein, or RGS proteins, and these proteins are crucial in controlling the activity of G proteins.

Regulation of G proteins is important because these proteins are involved in a variety of important cellular processes. The large G proteins, for example, are involved in transduction of signaling from the G protein-coupled receptor for a variety of signaling processes like hormonal signaling, and small G proteins are involved in processes like cellular trafficking and cell cycling.

GAP's role in this function is to turn the G protein's activity off. In this sense, GAPs function is opposite to that of guanine nucleotide exchange factors (GEFs), which serve to enhance G protein signaling.

see RLIP76