

GRB2 Polyclonal Antibody

Catalog # AP70239

Product Information

Application	WB
Primary Accession	P62993
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	25206

Additional Information

Gene ID	2885
Other Names	GRB2; ASH; Growth factor receptor-bound protein 2; Adapter protein GRB2; Protein Ash; SH2/SH3 adapter GRB2
Dilution	WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/40000. Not yet tested in other applications.
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20°C

Protein Information

Name	GRB2
Synonyms	ASH
Function	<p>Non-enzymatic adapter protein that plays a pivotal role in precisely regulated signaling cascades from cell surface receptors to cellular responses, including signaling transduction and gene expression (PubMed:11726515, PubMed:37626338). Thus, participates in many biological processes including regulation of innate and adaptive immunity, autophagy, DNA repair or necroptosis (PubMed:35831301, PubMed:37626338, PubMed:38182563). Controls signaling complexes at the T-cell antigen receptor to facilitate the activation, differentiation, and function of T-cells (PubMed:36864087, PubMed:9489702). Mechanistically, engagement of the TCR leads to phosphorylation of the adapter protein LAT, which serves as docking site for GRB2 (PubMed:9489702). In turn, GRB2 establishes a connection with SOS1 that acts as a guanine nucleotide exchange factor and serves as a critical regulator of KRAS/RAF1 leading to MAPKs translocation to the nucleus and activation (PubMed:12171928, PubMed:25870599). Functions also a role in B-cell activation by amplifying Ca(2+) mobilization and activation of the ERK</p>

MAP kinase pathway upon recruitment to the phosphorylated B-cell antigen receptor (BCR) (PubMed:[25413232](#), PubMed:[29523808](#)). Plays a role in switching between autophagy and programmed necrosis upstream of EGFR by interacting with components of necrosomes including RIPK1 and with autophagy regulators SQSTM1 and BECN1 (PubMed:[35831301](#), PubMed:[38182563](#)). Regulates miRNA biogenesis by forming a functional ternary complex with AGO2 and DICER1 (PubMed:[37328606](#)). Functions in the replication stress response by protecting DNA at stalled replication forks from MRE11-mediated degradation. Mechanistically, inhibits RAD51 ATPase activity to stabilize RAD51 on stalled replication forks (PubMed:[38459011](#)). Additionally, directly recruits and later releases MRE11 at DNA damage sites during the homology-directed repair (HDR) process (PubMed:[34348893](#)).

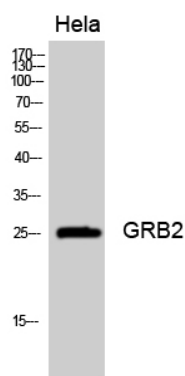
Cellular Location

Nucleus. Cytoplasm. Endosome. Golgi apparatus
{ECO:0000250|UniProtKB:Q60631}

Background

Adapter protein that provides a critical link between cell surface growth factor receptors and the Ras signaling pathway.

Images



Western Blot analysis of HeLa cells using GRB2 Polyclonal Antibody diluted at 1 : 2000

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