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KD-Validated Anti-Growth factor receptor bound protein 2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1558

Product Information

Application	WB, FC
Primary Accession	P62993
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB6275
Calculated MW	25206
Gene Name	GRB2
Aliases	GRB2; Growth Factor Receptor Bound Protein 2; Growth Factor Receptor-Bound Protein 2; NCKAP2; SH2/SH3 Adapter GRB2; Protein Ash; ASH; Epidermal Growth Factor Receptor-Binding Protein GRB2; Epididymis Secretory Sperm Binding Protein; Growth Factor Receptor-Bound Protein 3; Antibodyundant SRC Homology; Adapter Protein GRB2; EGFRBP-GRB2; MSTP084; Grb3-3; MST084; HT027
Immunogen	A synthesized peptide derived from human GRB2

Additional Information

Gene ID	2885
Other Names	Growth factor receptor-bound protein 2, Adapter protein GRB2, Protein Ash, SH2/SH3 adapter GRB2, GRB2, ASH

Protein Information

Name	GRB2 (HGNC:4566)
Function	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:11016927, 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 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 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}

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