

GRB2 Antibody
Rabbit mAb
Catalog # AP91587

Specification

GRB2 Antibody - Product Information

Application	WB, IHC, ICC, IP
Primary Accession	P62993
Reactivity	Rat
Clonality	Monoclonal
Other Names	
ASH; Grb2; Grb3 3; HT027; NCKAP2; Protein ash; SEM5;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	25206 Da

GRB2 Antibody - Additional Information

Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human GRB2
Description	Adapter protein that provides a critical link between cell surface growth factor receptors and the Ras signaling pathway.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

GRB2 Antibody - Protein Information

Name GRB2

Synonyms ASH

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: [11726515](http://www.uniprot.org/citations/11726515), PubMed: [37626338](http://www.uniprot.org/citations/37626338)). Thus, participates in many biological processes including regulation of innate and adaptive immunity, autophagy, DNA repair or necroptosis (PubMed: [35831301](http://www.uniprot.org/citations/35831301), PubMed: [37626338](http://www.uniprot.org/citations/37626338), PubMed: [38182563](http://www.uniprot.org/citations/38182563)). Controls signaling complexes at the T-cell antigen receptor to facilitate the activation, differentiation, and function of T-cells (PubMed: [36864087](http://www.uniprot.org/citations/36864087))

target="_blank">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 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

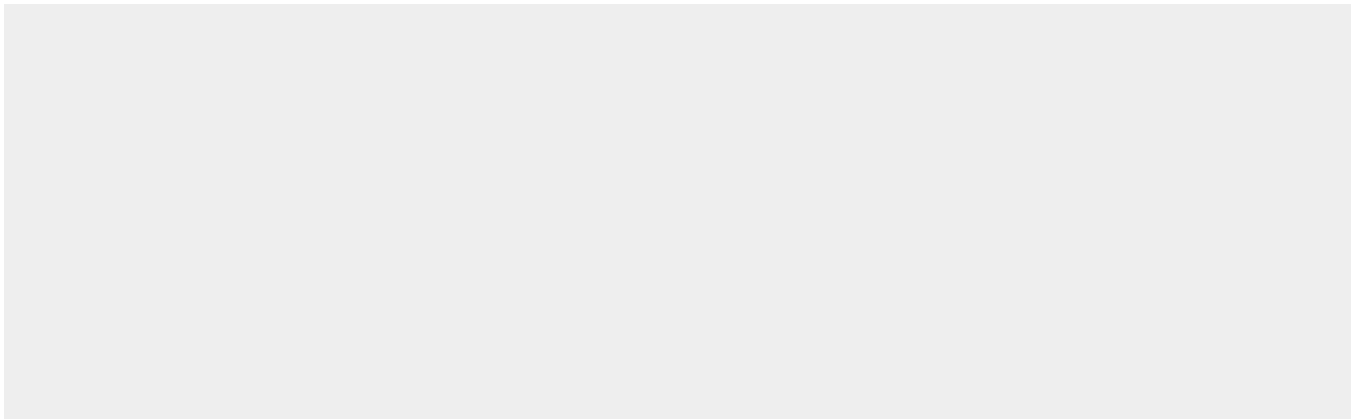
Nucleus. Cytoplasm. Endosome. Golgi apparatus {ECO:0000250|UniProtKB:Q60631}

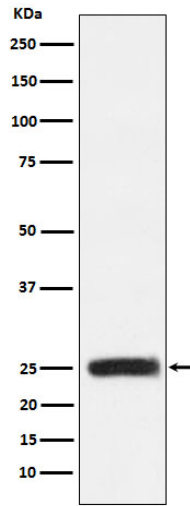
GRB2 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

GRB2 Antibody - Images





Western blot analysis of GRB2 expression in HEK293 cell lysate.