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GRB2 Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6283C

Specification

GRB2 Antibody (Center) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	P62993
Other Accession	P62994, Q60631, Q6GPJ9, P87379
Reactivity	**Human**
Predicted	**Xenopus, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**25206**
Antigen Region	**89-118**

GRB2 Antibody (Center) - Additional Information

Gene ID 2885

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

Target/Specificity
This GRB2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 89-118 amino acids from the Central region of human GRB2.

Dilution
WB~~1:1000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
GRB2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

GRB2 Antibody (Center) - 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, 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}

GRB2 Antibody (Center) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

GRB2 Antibody (Center) - Images

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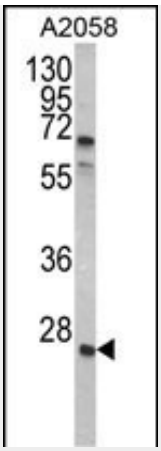
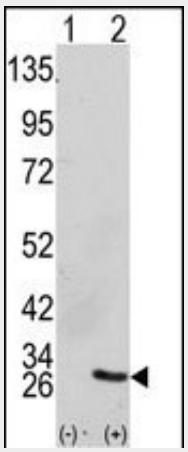
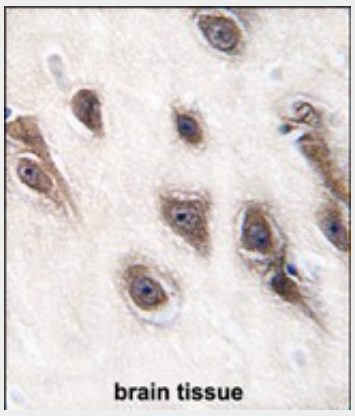


Western blot analysis of GRB2 Antibody (Center) (Cat. #AP6283c) in A2058 cell line lysates (35ug/lane). GRB2 (arrow) was detected using the purified Pab.



Western blot analysis of GRB2 (arrow) using GRB2 Antibody (Center) (Cat.#AP6283c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the GRB2 gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human brain tissue reacted with GRB2 antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

GRB2 Antibody (Center) - Background

GRB2 binds the epidermal growth factor receptor and contains one SH2 domain and two SH3

domains. Its two SH3 domains direct complex formation with proline-rich regions of other proteins, and its SH2 domain binds tyrosine phosphorylated sequences.

GRB2 Antibody (Center) - References

Kondo,A., J. Biol. Chem. 283 (3), 1428-1436 (2008)
Morimatsu,M., Proc. Natl. Acad. Sci. U.S.A. 104 (46), 18013-18018 (2007)
Martinez,N., Cell. Signal. 19 (11), 2277-2285 (2007)