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Goat Anti-GRB2 Antibody

Peptide-affinity purified goat antibody

Catalog # AF1507a

Specification

Goat Anti-GRB2 Antibody - Product Information

Application	**IHC**
Primary Accession	P62993
Other Accession	NP_987102, 2885, 14784 (mouse), 81504 (rat)
Reactivity	**Human, Mouse**
Predicted	**Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**25206**

Goat Anti-GRB2 Antibody - Additional Information

Gene ID 2885

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

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-GRB2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-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:<a href="http://www.uniprot.org/citations/11726515"

target="_blank">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}

Goat Anti-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 Cytomety
- Cell Culture

Goat Anti-GRB2 Antibody - Images

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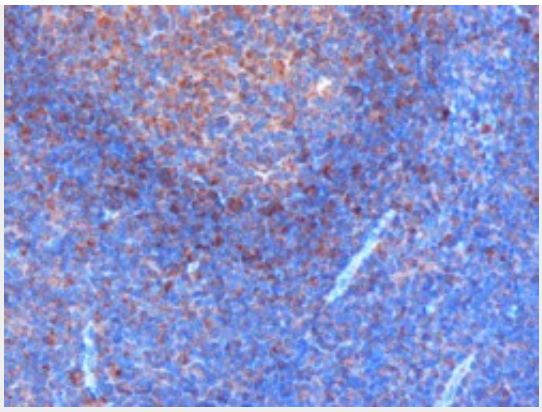

AF1507a (0.3 µg/ml) staining of paraffin embedded Human Tonsil. Microwaved antigen retrieval with citrate buffer pH6, HRP-staining.

Goat Anti-GRB2 Antibody - Background

The protein encoded by this gene 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. This gene is similar to the Sem5 gene of C.elegans, which is involved in the signal transduction pathway. Two alternatively spliced transcript variants encoding different isoforms have been found for this gene.

Goat Anti-GRB2 Antibody - References

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
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Preliminary crystallographic characterization of the Grb2 SH2 domain in complex with a FAK-derived phosphotyrosyl peptide. Chen HH, et al. Acta Crystallogr Sect F Struct Biol Cryst Commun, 2010 Feb 1. PMID 20124721.
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