

**Goat Anti-GRB2 Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF1507a****Specification**

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**Goat Anti-GRB2 Antibody - Product Information**

Application	WB, IHC, E
Primary Accession	<a href="#">P62993</a>
Other Accession	<a href="#">NP_987102</a> , <a href="#">2885</a> , <a href="#">14784 (mouse)</a> , <a href="#">81504 (rat)</a>
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

**Dilution**WB~~1:1000  
IHC~~1:100~500  
E~~N/A**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</a>, PubMed:<a href="http://www.uniprot.org/citations/37626338" target="\_blank">37626338</a>). Thus, participates in many biological processes including regulation of innate and adaptive immunity, autophagy, DNA repair or necroptosis (PubMed:<a href="http://www.uniprot.org/citations/35831301" target="\_blank">35831301</a>, PubMed:<a href="http://www.uniprot.org/citations/37626338" target="\_blank">37626338</a>, PubMed:<a href="http://www.uniprot.org/citations/38182563" target="\_blank">38182563</a>). Controls signaling complexes at the T-cell antigen receptor to facilitate the activation, differentiation, and function of T-cells (PubMed:<a href="http://www.uniprot.org/citations/36864087" target="\_blank">36864087</a>, PubMed:<a href="http://www.uniprot.org/citations/9489702" target="\_blank">9489702</a>). Mechanistically, engagement of the TCR leads to phosphorylation of the adapter protein LAT, which serves as docking site for GRB2 (PubMed:<a href="http://www.uniprot.org/citations/9489702" target="\_blank">9489702</a>). 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:<a href="http://www.uniprot.org/citations/12171928" target="\_blank">12171928</a>, PubMed:<a href="http://www.uniprot.org/citations/25870599" target="\_blank">25870599</a>). 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:<a href="http://www.uniprot.org/citations/25413232" target="\_blank">25413232</a>, PubMed:<a href="http://www.uniprot.org/citations/29523808" target="\_blank">29523808</a>). 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:<a href="http://www.uniprot.org/citations/35831301" target="\_blank">35831301</a>, PubMed:<a href="http://www.uniprot.org/citations/38182563" target="\_blank">38182563</a>). Regulates miRNA biogenesis by forming a functional ternary complex with AGO2 and DICER1 (PubMed:<a href="http://www.uniprot.org/citations/37328606" target="\_blank">37328606</a>). 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:<a href="http://www.uniprot.org/citations/38459011" target="\_blank">38459011</a>). Additionally, directly recruits and later releases MRE11 at DNA damage sites during the homology-directed repair (HDR) process (PubMed:<a href="http://www.uniprot.org/citations/34348893" target="\_blank">34348893</a>).

## Cellular Location

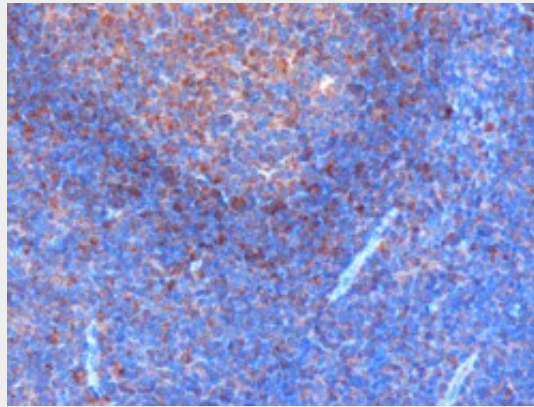
Nucleus. Cytoplasm. Endosome. Golgi apparatus {ECO:0000250|UniProtKB:Q60631}

## 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 Cytometry](#)
- [Cell Culture](#)

## Goat Anti-GRB2 Antibody - Images



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.

Association study of 182 candidate genes in anorexia nervosa. Pinheiro AP, et al. *Am J Med Genet B Neuropsychiatr Genet*, 2010 Jul. PMID 20468064.

Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Rose JE, et al. *Mol Med*, 2010 Jul-Aug. PMID 20379614.

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.

Assembly of the Sos1-Grb2-Gab1 ternary signaling complex is under allosteric control. McDonald CB, et al. *Arch Biochem Biophys*, 2010 Feb 15. PMID 20005866.