

**KD-Validated Anti-Growth factor receptor bound protein 2 Rabbit Monoclonal Antibody**  
**Rabbit monoclonal antibody**  
**Catalog # AGI1558****Specification****KD-Validated Anti-Growth factor receptor bound protein 2 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC
Primary Accession	<a href="#">P62993</a>
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 25 kDa , observed , 25 kDa KDa
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

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

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

**KD-Validated Anti-Growth factor receptor bound protein 2 Rabbit Monoclonal 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"](http://www.uniprot.org/citations/11726515)target="\_blank">11726515</a>, PubMed:<[a href="http://www.uniprot.org/citations/37626338"](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

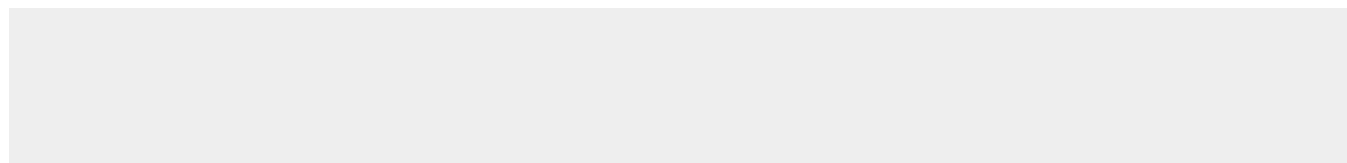
Nucleus. Cytoplasm. Endosome. Golgi apparatus {ECO:0000250|UniProtKB:Q60631}

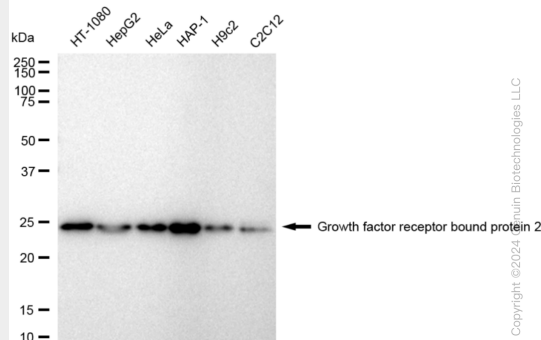
#### KD-Validated Anti-Growth factor receptor bound protein 2 Rabbit Monoclonal Antibody - Protocols

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

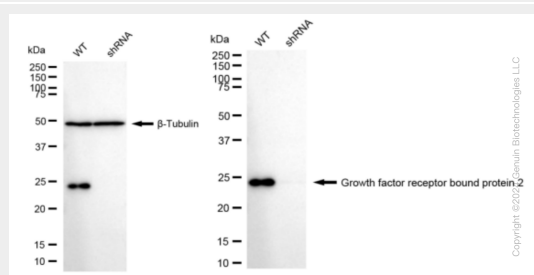
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

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

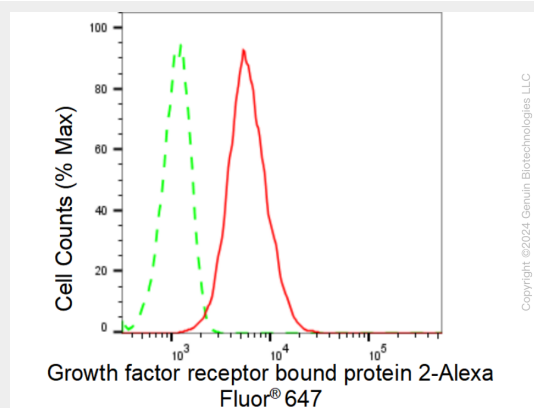




Western blotting analysis using anti-Growth factor receptor bound protein 2 antibody (Cat#AGI1558). Total cell lysates (30  $\mu$ g) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Growth factor receptor bound protein 2 antibody (Cat#AGI1558, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-Growth factor receptor bound protein 2 antibody (Cat#AGI1558). Growth factor receptor bound protein 2 expression in wild type (WT) and Growth factor receptor bound protein 2 shRNA knockdown (KD) HeLa cells with 30  $\mu$ g of total cell lysates.  $\beta$ -Tubulin serves as a loading control. The blot was incubated with anti-Growth factor receptor bound protein 2 antibody (Cat#AGI1558, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of Growth factor receptor bound protein 2 expression in HT-1080 cells using Growth factor receptor bound protein 2 antibody (Cat#AGI1558, 1:2,000). Green, isotype control; red, Growth factor receptor bound protein 2.