Anti-GRB2 Antibody

ER31203

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 25 kDa

Description: Growth factor receptor-bound protein 2 also known as Grb2 is an adaptor protein involved in signal transduction/cell communication. In humans, the GRB2 protein is encoded by the GRB2 gene. The protein encoded by this gene binds receptors such as 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 sem-5 gene of Caenorhabditis elegans, which is involved in the signal transduction pathway. Grb2 is widely expressed and is essential for multiple cellular functions. Inhibition of Grb2 function impairs developmental processes in various organisms and blocks transformation and proliferation of various cell types. It is thus not surprising that targeted gene disruption of Grb2 in mice is lethal at an early embryonic stage. Grb2 is best known for its ability to link the epidermal growth factor receptor tyrosine kinase to the activation of Ras and its downstream kinases, ERK1,2. Grb2 is composed of an SH2 domain flanked on each side by an SH3 domain. Grb2 has two closely related proteins with similar domain organizations, Gads and Grap. Gads and Grap are expressed specifically in hematopoietic cells and function in the coordination of tyrosine kinase mediated signal transduction.

Immunogen:	Synthetic peptide within C-terminal residues of GRB2.
Positive control:	THP-1 cell lysate, MCF7 cell lysate, HepG2 cell lysate, NIH/3T3 cell lysate, F9 cell lysate, PC-12 cell lysate, HepG2, human tonsil tissue, human breast cancer tissue, SHG-44.
Subcellular location:	Cytoplasm, nucleus.
Database links:	SwissProt: P62993 Human | Q60631 Mouse | P62994 Rat
Recommended Dilutions:	
WB	1:1,000
IF-Cell	1:200
IHC-P	1:200
FC	1:100-1:200
Storage Buffer:	1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Immunogen affinity purified.

Images

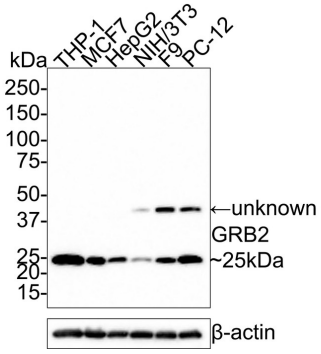

Fig1: Western blot analysis of GRB2 on different lysates with Rabbit anti-GRB2 antibody (ER31203) at 1/1,000 dilution.

Lane 1: THP-1 cell lysate
Lane 2: MCF7 cell lysate
Lane 3: HepG2 cell lysate
Lane 4: NIH/3T3 cell lysate
Lane 5: F9 cell lysate
Lane 6: PC-12 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 25 kDa
Observed band size: 25/40 kDa

Exposure time: 1 minute 40 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ER31203) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

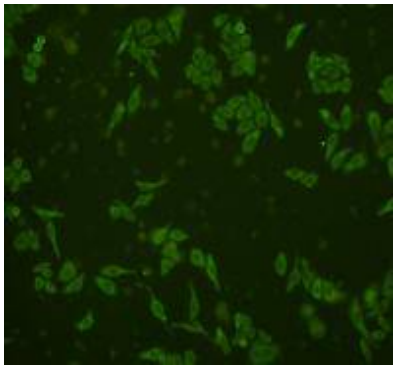

Fig2: ICC staining GRB2 in HepG2 cells (green). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

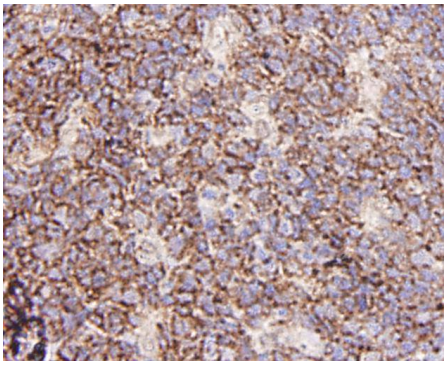

Fig3: Immunohistochemical analysis of paraffin-embedded human tonsil tissue using anti-GRB2 antibody. Counter stained with hematoxylin.

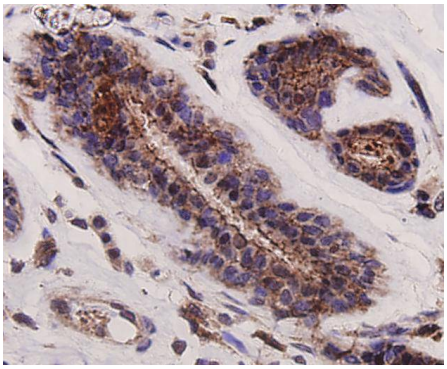

Fig4: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue using anti-GRB2 antibody. Counter stained with hematoxylin.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. "Cytoplasmic ACK1 interaction with multiple receptor tyrosine kinases is mediated by Grb2: an analysis of ACK1 effects on Axl signaling." Pao-Chun L., Chan P.M., Chan W., Manser E. J. Biol. Chem. 284:34954-34963(2009)
2. "Distinct binding modes of two epitopes in Gab2 that interact with the SH3C domain of Grb2." Harkiolaki M., Tsirka T., Lewitzky M., Simister P.C., Joshi D., Bird L.E., Jones E.Y., O'Reilly N., Feller S.M. Structure 17:809-822(2009)
3. "High resolution crystal structure of the Grb2 SH2 domain with a phosphopeptide derived from CD28." Higo K., Ikura T., Oda M., Morii H., Takahashi J., Abe R., Ito N. PLoS ONE 8:E74482-E74482(2013)