ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

## Grb14 (Growth receptor-boudn protein 14) Antibodies

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| Cat. # GRB14-P | Rat Grb14 Control/blocking Peptide #1 | **SIZE**: 100 ug |
| Cat. # GRB14-S | Rabbit Anti-rat Grb14 antiserum #1 | **SIZE**: 100 ul |
| Cat. # GRB14-A | Rabbit Anti-rat Grb14 IgG # 1 (aff pure) | **SIZE**: 100 ug |

**Tankyrases** (TRF1 interacting ankyrin-related ADP-ribose polymerase; human 1327 aa, **renamed as TNKS-1/TANK1,** chromosome 8, and its homolog TANK2), a modular protein with homology to ankyrin and poly(adenosine diphosphate-ribose) polymerase (PARP) has been cloned and localized to telomere. In addition to regulating the telomere and nuclear localization, TANKs also resides at the other subcellular compartments such as nuclear envelope, specifically on cytoplasmic fibers of nuclear pore complexes. TANK2 has also been shown to reside in the low-density microsomes and associate with the adapter protein, **Grb14**. The N-terminal 110-aa of Grb14 and 10-19 ANK-repeats of TANK2 mediate this interaction. GRB14 (mouse/rat 538 aa, human 540 aa, chromosome 2) is a member of GRB7 (Growth receptor bound proteins) family that includes Grb7, and Grb10. Grb family is characterized by the presence of a conserved, short non-catalytic SH2 domain (Src homology region 2) that binds to peptide sequences containing phopshotyrosine. Many intracellular targets of receptor tyrosine kinases contain 1 or more SH2 domains. GRB14 is widely distributed in many tissues with an abundance in testis, ovary, heart, liver, skeletal muscle, kidney, and pancreas. TANKs may play a role vesicle trafficking and in cytoplasmic signal transduction pathways via the Grg14.

**FUNCTION**: Interacts with the cytoplasmic domain of the autophosphorylated insulin receptor which is then inhibited. The interaction is mediated by the SH2 domain.
**SUBUNIT**: Binds to the ankyrin repeat region of TNKL via its NT.
**SUBCELLULAR LOCATION**: Cytoplasm (By similarity). Golgi apparatus membrane; Peripheral membrane protein (By similarity). Endosome membrane; Peripheral membrane protein
**PTM**: Phosphorylated on serine residues (By similarity).
Belongs to the GRB7/10/14 family; Contains 1 PH domain, Contains 1 Ras-associating domain, Contains 1 SH2 domain.
**Protein name** Growth factor receptor-bound protein 14
**Synonym** GRB14 adapter protein; **Gene name** Name: Grb14

## Source of Antigen, Antibodies, and Positive Controls

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|---|---|
| **Antigen** | A 16-aa **Peptide** (**designated as GRB14-P; Control peptide**) ~ within the N-terminus of **rat Grb14/GRBE** (protein accession #O88900, refs 1) |
| **Ab Host/type** | Rabbit, Polyclonal antiserum # **Grb14** -S and IgG, purified over antigen-agarose (Cat # **Grb14** -A) |
| **2-Ab** | Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available). |
| **-ve** | Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control |

## Form & Storage of Antibodies/Peptide Control

**Antiserum (unpurified)**
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
**Reconstitute** powder in 100 ul PBS

**Affinity pure IgG**
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
**Reconstitute powder** in PBS at 1mg/ml

**Control/blocking peptide**
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
**Reconstitute powder in PBS at 1 mg/ml.**

**Storage**
**Short-term**: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

**Long-term**: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability**: 6-12 months at –20oC or below.

## Recommended Usage

**Western Blotting** (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique). Grb14 is 60-65kDa.

**ELISA**: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

**Histochemistry** & Immunofluorescence: Not tested. We recommend the use of affinity purified ab at 2-20 ug/ml.

### Specificity & Cross-reactivity

The GRB14 control peptide sequence is 100% conserved in mouse and 87% in human Grb14. No significant sequence homology exist with other Grb7 family members. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: www.4adi.com\data\abblock.html).

**General References**: (1) Kasus-Jacobi A et al (1998) JBC 273, 26026; Reilly JF et al (2000) JBC 275, 7771; Daly R J et al (1996) JBC 271, 12502; Dong LQ et al (1997) JBC 272, 29104; Lyons RJ et al (2001) JBC 276, 17172

*This product is for In vitro research use only.

## Related material available from ADI

Antibodies TANK1/2, TRF1-2, TP1, Est2, GRBP14, Tab182, Glut4

GRB14-S-A-P 70831A

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