ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

# Glial cell-derived neurotrophic factor (GDNF) Antibodies

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| □ Cat. # GDNF11-M | Mouse Monoclonal Anti-human GDNF IgG | **SIZE**: 100 ug |
| □ Cat. # GDNF11-C | Purified Human GDNF protein Western blot +ve control | **SIZE**: 100 ul |
| □ Cat. # GDNF12-C | Purified Rat GDNF protein Western blot +ve control | **SIZE**: 100 ul |

The development and maintenance of the vertebrate nervous system depends upon neuronal survival proteins known as neurotrophic factors. Glial cell-derived neurotrophic factor, also known as GDNF is a protein that potently promotes the survival of many types of neurons. GDNF is a disulfide-linked homodimeric neurotrophic factor structurally related to Artemin, Neurturin and Persephin. These proteins belong to the cysteine-knot superfamily of growth factors that assume stable dimeric protein structures. GDNF signals through a multicomponent receptor system, composed of a RET and one of the four GFR α(α1-α4) receptors. GDNF specifically promotes dopamine uptake and survival and morphological differentiation of midbrain neurons. Using Parkinson's disease mouse model, GDNF has been shown to improve conditions such as bradykinesia, rigidity, and postural instability. The functional rat GDNF ligand is a disulfide-linked homodimer, of two 15 kDa polypeptide chains called monomers. Each monomer contains seven conserved cysteine residues, one of which (Cys 101) is used for inter-chain disulfide bridging and the others are involved in intramolecular ring formation known as the cysteine knot configuration.

## Source of Antigen and Antibodies

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| **Antigen** | Recombinant human GDNF protein |
| **Antibody host/type** | Mouse, monoclonal affinity purified IgG1, **Cat # GDNF11-M** |
| **Secondary Ab** | Cat # 40320, rabbit anti-mouse IgG-HRP (AP, biotin, FITC conjugates also available). |
| **Negative Control Ab** | Non-immune mouse IgG (Cat # 20008-1) to be used as –ve control for ELISA, WB, IHC etc. |

Glial derived Neurotrophic Factor Human Recombinant produced in E.Coli is a homodimer, non-glycosylated, polypeptide chain containing 2 x 135 amino acids and having a total molecular mass of 30,360 Dalton. **Human GDNF WB +ve control** (**Cat # GDNF12-C**), it is formulated in SDS-PAGE sample buffer (reduced). This preparation is not biologically inactive. It is not suitable for ELISA or other applications where native protein is required. It is supplied in 100 ul/vial. For WB, heat once and load 10 ul/lane and visualize with appropriate antibodies. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the GDNF11-C solution prior to heating and loading on gels.

Recombinant rat GDNF rat GDNF is a disulfide-linked homodimer, of two 15 kDa polypeptide chains called monomers. Each monomer contains seven conserved cysteine residues, one of which (Cys 101) is used for inter-chain disulfide bridging and the others are involved in intramolecular ring formation known as the cysteine knot configuration. It is expressed in E. coli and purified >95%. For Western blot #GDNF11-C is supplied in SDS-PAGE sample buffer (reduced and processed as above for #GDNF12-C).

Store frozen in suitable aliquots. Do not freeze, thaw, or hear repeatedly.

For Western blot use only. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. It is designed to produce good intensity band when used with appropriate ADI antibodies.

## Form & Storage

**Aff Pure (purified)**

- □ 100 ug/vial
- □ solution, PBS pH 7.5, 0.1% gelatin
- □ lyophilized in PBS pH 7.5, 0.1% gelatin

**Reconstitute powder** in 100 ul water

**Storage**

**Short-term**: unopened, undiluted vials for less than a week at 4oC.

**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.

**Shipping**: 4oC for solutions and room temp for powder.

## Recommended Usage

**Western Blotting** (1-2 ug/ml using ECL.

**ELISA** (0.1-1 ug/ml as detecting antibody.

**Histochemistry:** not tested**.** We recommend the use of 2-10 ug/ml of antibody in paraformaldehyde-fixed, paraffin embedded sections.

## Specificity & Cross-reactivity

GDNF11-M reacts with human, mouse, and rat GDNF protein. Anti-human GDNF11-M has no significant (1-5%) reactivity with NGF, NT-3 or NT-4. Antibody crossreactivity in various other species is not established. Purified recombinant human GDNF protein (#GDNF12-C) or rat GDNF protein (#GDNF11-C) can be used as control for Western.

**General References:** Shi H (2008) Am. J. Physiool. Renal. Physiol. 294, F229-F235; Wang LM (2004) JBC 279, 109-116;

*This product is for In vitro research use only.

**Related material available from ADI**

Ant-NGF, NT-3, NT-4, BDNF, Trk receptors, EGF, FGF and other growth factors

GDNF11-M-C 100311A

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