

**DESCRIPTION**

<b>Species Reactivity</b>	Human/Rat
<b>Specificity</b>	Detects human and rat GDNF in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived and Mouse myeloma cell line NS0-derived recombinant human GDNF Arg109-Ile211 Accession # P39905
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

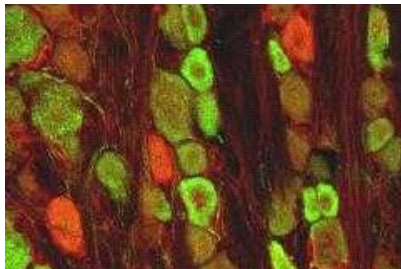
**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human GDNF (Catalog # 212-GD)
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Neutralization</b>	Measured by its ability to neutralize GDNF-induced proliferation in the SH-SY5Y human neuroblastoma cell line. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.25-1 µg/mL in the presence of 40 ng/mL Recombinant Human GDNF.	

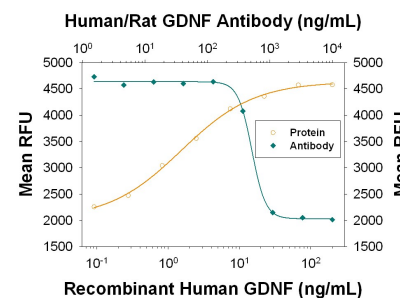
**DATA**

**Immunohistochemistry**



**GDNF and GFRα-1 in Rat Dorsal Root Ganglia.** GDNF and GFRα-1 were detected in perfusion fixed frozen sections of rat dorsal root ganglia using 10 µg/mL Goat Anti-Human/Rat GDNF Antigen Affinity-purified Polyclonal Antibody (green; Catalog # AF-212-NA) and 15 µg/mL Biotinylated Goat Anti-Rat GFRα-1 Antigen Affinity-purified Polyclonal Antibody (red; Catalog # BAF560). Tissue was incubated with primary antibodies overnight at 4 °C. View our protocol for [Fluorescent IHC Staining of Frozen Tissue Sections](#).

**Neutralization**



**Proliferation Induced by GDNF and Neutralization by Goat GDNF Antibody.** Recombinant Human GDNF (Catalog # 212-GD) induces proliferation in the SH-SY5Y human neuroblastoma cell line in the presence of Recombinant Human GFRα-1/GDNF Rα-1 Fc Chimera (Catalog # 714-GR) in a dose-dependent manner (orange line), as measured by Rezazurin (Catalog # AR002). Under these conditions, proliferation elicited by GDNF is neutralized (green line) by increasing concentrations of Goat Anti-Human/Rat GDNF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-212-NA). The ND<sub>50</sub> is typically 0.25-1 µg/mL.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Glial Cell Line-derived Neurotrophic Factor (GDNF) is a neurotrophic factor that has been shown to promote the survival of various neuronal subpopulations in both the central as well as the peripheral nervous systems at different stages of their development. Neuronal subpopulations that have been shown to be affected by GDNF include motoneurons, midbrain dopaminergic neurons, Purkinje cells and sympathetic neurons.

Native GDNF, a disulfide-linked homodimeric glycoprotein, is a novel member of the TGF- $\beta$  superfamily. Human GDNF cDNA encodes a 211 amino acid residue prepropeptide that is processed to yield a dimeric protein. Mature human GDNF was predicted to contain two 134 amino acid residue subunits. NS0 expressed mature human GDNF lacks 31 residues from the amino-terminus of the predicted sequence. This glycosylated recombinant mature human GDNF still contains the seven conserved Cys residues found in all members of the TGF- $\beta$  superfamily and is biologically active. The GDNF sequence contains two potential glycosylation sites and insect cell-expressed recombinant rat GDNF proteins are glycosylated. Mature rat and human GDNF exhibit approximately 93% amino acid sequence identity and show considerable species cross-reactivity. Cells known to express GDNF include Sertoli cells, type 1 astrocytes, Schwann cells, neurons, pinealocytes and skeletal muscle cells.