

**Anti-Neuregulin SMDF Antibody**  
**Rabbit polyclonal antibody to Neuregulin SMDF**  
**Catalog # AP59579**

**Specification**

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**Anti-Neuregulin SMDF Antibody - Product Information**

Application	WB, IF/IC
Primary Accession	<a href="#">Q02297</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	70392

**Anti-Neuregulin SMDF Antibody - Additional Information**

**Gene ID** 3084

**Other Names**

Pro-neuregulin-1 membrane-bound isoform; Pro-NRG1; NRG1; GGF; HGL; HRGA; NDF; SMDF

**Target/Specificity**

Recognizes endogenous levels of Neuregulin SMDF protein.

**Dilution**

WB~~WB (1/500 - 1/1000), IF/IC (1/100 - 1/500)  
IF/IC~~N/A

**Format**

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

**Storage**

Store at -20 °C. Stable for 12 months from date of receipt

**Anti-Neuregulin SMDF Antibody - Protein Information**

**Name** NRG1

**Synonyms** GGF, HGL, HRGA, NDF, SMDF

**Function**

Direct ligand for ERBB3 and ERBB4 tyrosine kinase receptors. Concomitantly recruits ERBB1 and ERBB2 coreceptors, resulting in ligand-stimulated tyrosine phosphorylation and activation of the ERBB receptors. The multiple isoforms perform diverse functions such as inducing growth and differentiation of epithelial, glial, neuronal, and skeletal muscle cells; inducing expression of acetylcholine receptor in synaptic vesicles during the formation of the neuromuscular junction; stimulating lobuloalveolar budding and milk production in the mammary gland and inducing differentiation of mammary tumor cells; stimulating Schwann cell proliferation; implication in the

development of the myocardium such as trabeculation of the developing heart. Isoform 10 may play a role in motor and sensory neuron development. Binds to ERBB4 (PubMed:<a href="http://www.uniprot.org/citations/10867024" target="\_blank">10867024</a>, PubMed:<a href="http://www.uniprot.org/citations/7902537" target="\_blank">7902537</a>). Binds to ERBB3 (PubMed:<a href="http://www.uniprot.org/citations/20682778" target="\_blank">20682778</a>). Acts as a ligand for integrins and binds (via EGF domain) to integrins ITGAV:ITGB3 or ITGA6:ITGB4. Its binding to integrins and subsequent ternary complex formation with integrins and ERBB3 are essential for NRG1-ERBB signaling. Induces the phosphorylation and activation of MAPK3/ERK1, MAPK1/ERK2 and AKT1 (PubMed:<a href="http://www.uniprot.org/citations/20682778" target="\_blank">20682778</a>). Ligand-dependent ERBB4 endocytosis is essential for the NRG1-mediated activation of these kinases in neurons (By similarity).

#### Cellular Location

[Pro-neuregulin-1, membrane-bound isoform]: Cell membrane; Single-pass type I membrane protein. Note=Does not seem to be active [Isoform 8]: Nucleus. Note=May be nuclear. [Isoform 10]: Membrane; Single-pass type I membrane protein. Note=May possess an internal uncleaved signal sequence

#### Tissue Location

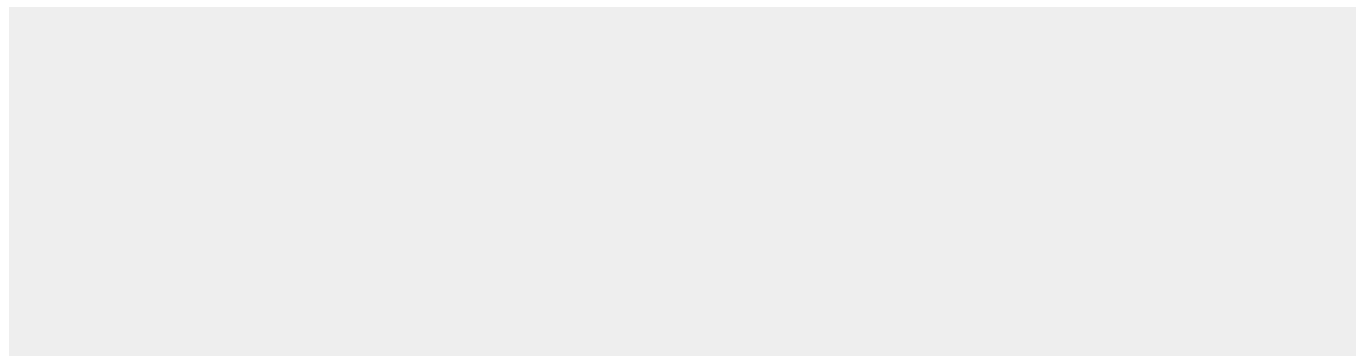
Type I isoforms are the predominant forms expressed in the endocardium. Isoform alpha is expressed in breast, ovary, testis, prostate, heart, skeletal muscle, lung, placenta liver, kidney, salivary gland, small intestine and brain, but not in uterus, stomach, pancreas, and spleen. Isoform 3 is the predominant form in mesenchymal cells and in non-neuronal organs, whereas isoform 6 is the major neuronal form. Isoform 8 is expressed in spinal cord and brain. Isoform 9 is the major form in skeletal muscle cells; in the nervous system it is expressed in spinal cord and brain. Also detected in adult heart, placenta, lung, liver, kidney, and pancreas. Isoform 10 is expressed in nervous system: spinal cord motor neurons, dorsal root ganglion neurons, and brain. Predominant isoform expressed in sensory and motor neurons. Not detected in adult heart, placenta, lung, liver, skeletal muscle, kidney, and pancreas. Not expressed in fetal lung, liver and kidney. Type IV isoforms are brain-specific

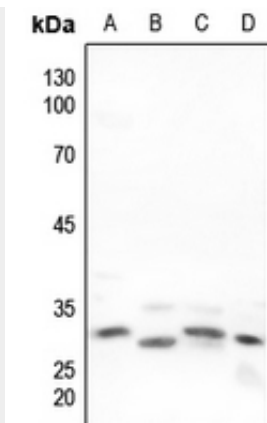
#### Anti-Neuregulin SMDF Antibody - Protocols

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

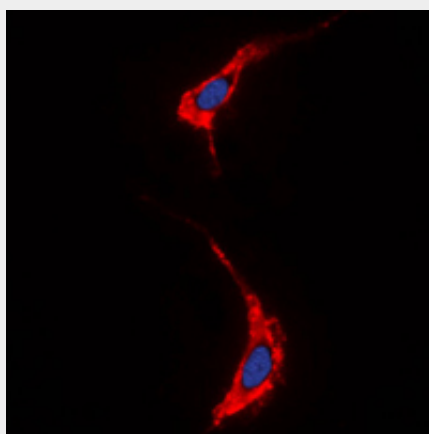
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Anti-Neuregulin SMDF Antibody - Images





Western blot analysis of Neuregulin SMDF expression in Hela (A), mouse brain (B), mouse spleen (C), rat spleen (D) whole cell lysates.



Immunofluorescent analysis of Neuregulin SMDF staining in A431 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark. DAPI was used to stain the cell nuclei (blue).

#### Anti-Neuregulin SMDF Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the N-term region of human Neuregulin SMDF. The exact sequence is proprietary.