

**Anti-Neuregulin-1 Antibody**  
Catalog # ABO11277**Specification****Anti-Neuregulin-1 Antibody - Product Information**

Application	IHC, WB, ICC
Primary Accession	<a href="#">Q02297</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Pro-neuregulin-1, membrane-bound isoform(NRG1) detection. Tested with WB, IHC-P, IHC-F, ICC in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-Neuregulin-1 Antibody - Additional Information**

**Gene ID** 3084

**Other Names**

Pro-neuregulin-1, membrane-bound isoform, Pro-NRG1, Neuregulin-1, Acetylcholine receptor-inducing activity, ARIA, Breast cancer cell differentiation factor p45, Glial growth factor, Heregulin, HRG, Neu differentiation factor, Sensory and motor neuron-derived factor, NRG1, GGF, HGL, HRGA, NDF, SMDF

**Calculated MW**

70392 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat  
Immunocytochemistry , 0.5-1 µg/ml, Human, Mouse, Rat  
Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Rat, Human, Mouse  
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

**Subcellular Localization**

Pro-neuregulin-1, membrane-bound isoform: Cell membrane; Single-pass type I membrane protein. Does not seem to be active.

**Tissue Specificity**

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. .

**Protein Name**

Pro-neuregulin-1, membrane-bound isoform

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human NRG1(617-636aa RFSTQEEIQARLSSVIANQD), different from the related rat and mouse sequences by one amino acids.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins

**Storage**

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

**Sequence Similarities**

Belongs to the neuregulin family.

**Anti-Neuregulin-1 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 ITGA6: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

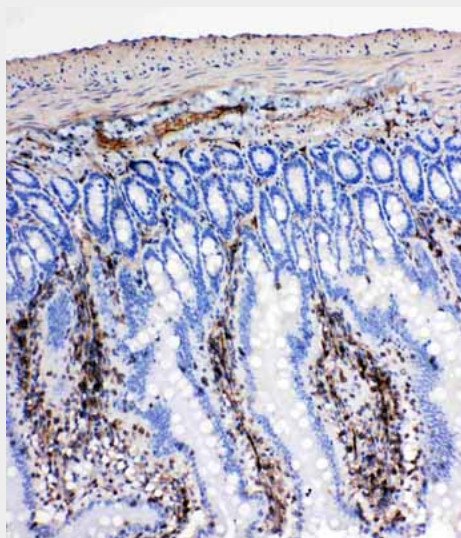
Type I isoforms are the predominant forms expressed in the endocardium. Isoform alpha is expressed in breast, ovary, testis, prostate, heart, skeletal muscle, lung, placenta liver, kidney, salivary gland, small intestine and brain, but not in uterus, stomach, pancreas, and spleen. Isoform 3 is the predominant 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-1 Antibody - Protocols

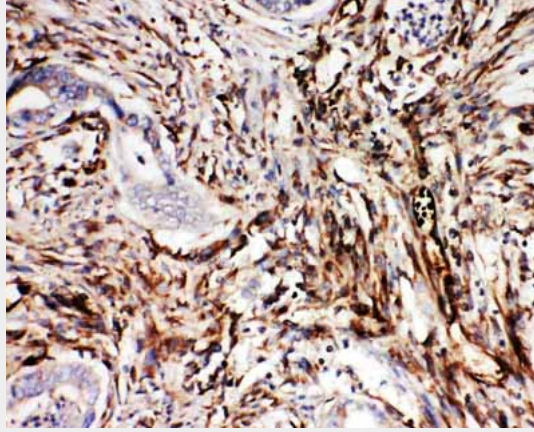
Provided below are standard protocols that you may find useful for product applications.

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

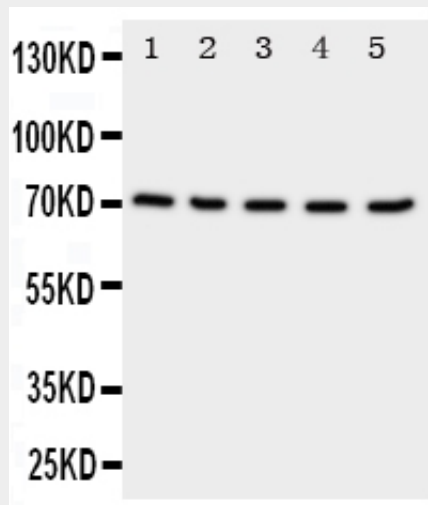
### Anti-Neuregulin-1 Antibody - Images



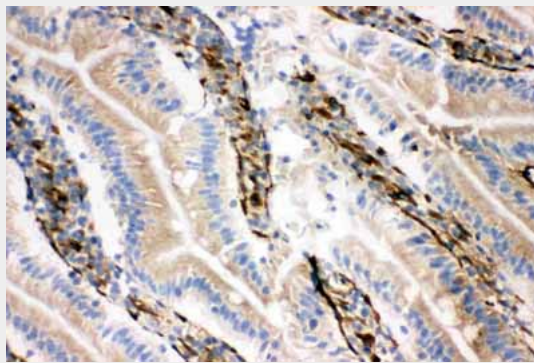
Anti-NRG1 antibody, ABO11277, IHC(P)IHC(P): Rat Intestine Tissue



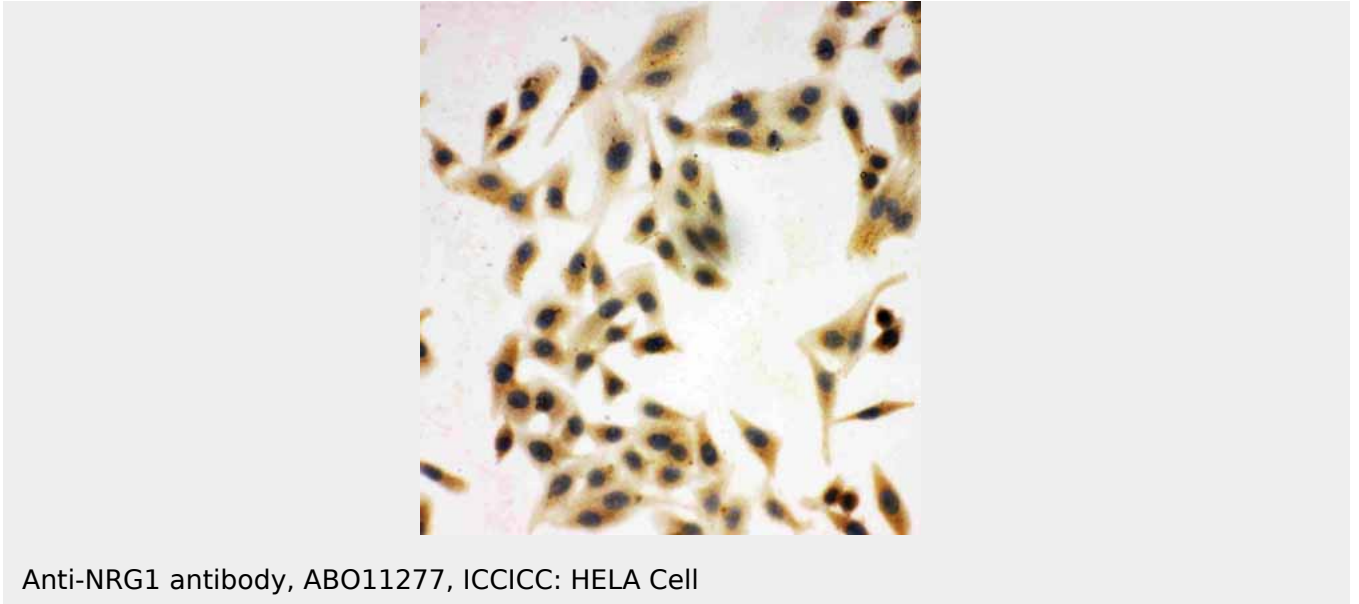
Anti-NRG1 antibody, ABO11277, IHC(P)IHC(P): Human Intestinal Cancer Tissue



Anti-NRG1 antibody, ABO11277, Western blotting  
Lane 1: Rat Spleen Tissue Lysate  
Lane 2: Rat Kidney Tissue Lysate  
Lane 3: Rat Brain Tissue Lysate  
Lane 4: HELA Cell Lysate  
Lane 5: SMMC Cell Lysate



Anti-NRG1 antibody, ABO11277, IHC(F)IHC(F): Rat Intestine Tissue



### **Anti-Neuregulin-1 Antibody - Background**

NRG1 (Neuregulin 1), also known as ARIA, NDF or HRGA, is a protein that in humans is encoded by the NRG1 gene. NRG1 is one of four proteins in the neuregulin family that act on the EGFR family of receptors. By in situ hybridization of a tritium-labeled probe to human metaphase spreads, Orr-Urtreger et al. (1993) localized the NDF gene to 8p21-p12. In mouse embryos 14.5 days postcoitum, Orr-Urtreger et al. (1993) found that NDF expression is confined predominantly to the central and peripheral nervous systems, including the neuroepithelium that lines the lateral ventricles of the brain, the ventral horn of the spinal cord, and the intestinal as well as dorsal root ganglia.