

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human NRG1- β 1/HRG1- β 1 EGF Domain in direct ELISAs and Western blots. In Western blots (reducing conditions), approximately 100% cross-reactivity with recombinant human HRG- α is observed. In direct ELISAs, approximately 5% cross-reactivity is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human NRG1- β 1/HRG1- β 1 EGF Domain Thr176-Lys246 Accession # NP_039250
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Neutralization	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

The neuregulin family of structurally related glycoproteins comprises products from four distinct but related genes, *Nrg-1*, *Nrg-2*, *Nrg-3*, and *Nrg-4*. Through alternative splicing or the use of alternative promoters, *Nrg-1* has been shown to encode more than 14 soluble or transmembrane proteins. The extracellular domain of the transmembrane NRG1 isoforms can be proteolytically cleaved to release soluble growth factors. All NRG1 isoforms contain an EGF-like domain (α - or β -splice variant that differ in their C-terminal region) that is required for their direct binding to the ErbB3 or ErbB4 receptor tyrosine kinases. The ErbB3 or ErbB4 subsequently recruits and heterodimerizes with ErbB2, resulting in tyrosine phosphorylation and NRG1 signaling. NRG1 isoforms can be classified into three major subtypes. Type I (Neu Differentiation Factor, NDF; Heregulin, HRG; Acetylcholine Receptor Inducing Activity, ARIA) and type II (Glial Growth Factor, GGF) NRG1s have an immunoglobulin (Ig)-like domain N-terminal to the EGF-like domain. Type I NRG1s differ from type II NRG1s by having a glycosylation-rich domain between the Ig-like and the EGF-like domains. Type III NRG1s (Sensory and Motor neuron-Derived Factor) lacks the Ig-like domain but has a cysteine rich domain (CRD) instead. NRG1 isoforms show distinct spatial and temporal expression patterns. These proteins play important roles during development of both the nervous system and the heart. They have been shown to regulate the selective expression of neurotransmitter receptors in neurons and at the neuromuscular junction, and promote the differentiation and development of Schwann cells from neural crest stem cells. NRG1s have also been shown to be involved in the establishment of the oligodendroglial lineage.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.