

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                          |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human NRG1-α/HRG1-α 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 recombinant human NRG1-α/HRG1-α<br>Ser177-Lys241<br>Accession # Q7RTV8 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                |
| <b>Formulation</b>                                                                                                                                                                                      | 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.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Neutralization</b>       | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | 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* encodes more than 14 soluble or transmembrane proteins. The extracellular domain of the transmembrane NRG1 isoforms can be proteolytically cleaved to release soluble growth factors. The α- or β-splice variants differ in their C-terminal region. All NRG1 isoforms contain an EGF-like domain 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 NRG1 (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 to 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

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