abcam

Product datasheet

Recombinant Human NRG1 protein ab176957

1 Image

Description

Product name	Recombinant Human NRG1 protein
Purity	> 95 % SDS-PAGE. Purity is greater than 95% as determined by HPLC and SDS-PAGE.
Expression system	Escherichia coli
Accession	Q02297-7
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MGSSHHHHHHSSGLVPRGSHMSHLVKCAEKEKTFCVNG GECFMVKDLSNP SRYLCKCPNEFTGDRCQNYVMASFYKAEELYQ
Predicted molecular weight	7 kDa
Amino acids	177 to 237
Additional sequence information	The protein sequence corresponds to isoform 7 of human NRG1 protein.

Specifications

Our Abpromise guarantee covers the use of **ab176957** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	HPLC SDS-PAGE
Form	Lyophilized
Additional notes	Endotoxin Level: <0.1 ng per µg.

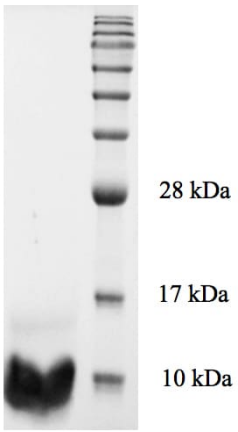
Preparation and Storage

Stability and Storage	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle. Constituent: 100% Water

General Info

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.
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.
Involvement in disease	Note=A chromosomal aberration involving NRG1 produces gamma-heregulin. Translocation t(8;11) with ODZ4. The translocation fuses the 5'-end of ODZ4 to NRG1 (isoform 8). The product of this translocation was first thought to be an alternatively spliced isoform. Gamma-heregulin is a soluble activating ligand for the ERBB2-ERBB3 receptor complex and acts as an autocrine growth factor in a specific breast cancer cell line (MDA-MB-175). Not detected in breast carcinoma samples, including ductal, lobular, medullary, and mucinous histological types, neither in other breast cancer cell lines.
Sequence similarities	Belongs to the neuregulin family. Contains 1 EGF-like domain. Contains 1 Ig-like C2-type (immunoglobulin-like) domain.
Developmental stage	Detectable at early embryonic ages. Isoform 10 is highly expressed in developing spinal motor neurons and in developing cranial nerve nuclei. Expression is maintained only in both adult motor neurons and dorsal root ganglion neurons. Type IV isoforms are expressed in fetal brain.
Domain	The cytoplasmic domain may be involved in the regulation of trafficking and proteolytic processing. Regulation of the proteolytic processing involves initial intracellular domain dimerization. ERBB receptor binding is elicited entirely by the EGF-like domain.
Post-translational modifications	Proteolytic cleavage close to the plasma membrane on the external face leads to the release of the soluble growth factor form. N- and O-glycosylated. Extensive glycosylation precedes the proteolytic cleavage.
Cellular localization	Secreted; Cell membrane. Does not seem to be active; Membrane. May possess an internal uncleaved signal sequence; Nucleus. May be nuclear and Secreted. Has a signal peptide.

Images



SDS-PAGE - Recombinant Human NRG1 protein (ab176957)

15% SDS-PAGE analysis of ab176957 (20 µg).

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors