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Product datasheet

Anti-NRG1 antibody [7D5] ab2369

1 References 1 Image

Overview

Product name	Anti-NRG1 antibody [7D5]
Description	Mouse monoclonal [7D5] to NRG1
Host species	Mouse
Tested applications	**Suitable for:** IHC-P, IHC-Fr
Species reactivity	**Reacts with:** Mouse, Rat
Immunogen	Recombinant extracellular domain of rat NRG1 (Neuregulin 1) protein.
Positive control	Prostate carcinoma
General notes	

NRG1 (Neuregulin 1) binds to e-erbB3 and c-erbB4 receptors on mammary and neuronal cells with low and high affinity, respectively. NRG1 exists in several isoforms, which are classified in two groups, a and b, that differ in their EGF-like domain and in receptor binding affinity. This antibody detects pan-NRG1 and is not subtype specific.

Abcam is committed to meeting high standards of ethical manufacturing and has decided to discontinue this product by June 2019 as it has been generated by the ascites method. We are sorry for any inconvenience this may cause.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituent: 1% BSA
Purity	IgG fraction
Primary antibody notes	NRG1 (Neuregulin 1) binds to e-erbB3 and c-erbB4 receptors on mammary and neuronal cells with low and high affinity, respectively. NRG1 exists in several isoforms, which are classified in two groups, a and b, that differ in their EGF-like domain and in receptor binding affinity. This antibody detects pan-NRG1 and is not subtype specific.
Clonality	Monoclonal
Clone number	7D5

Myeloma	unknown
Isotype	IgG2a
Light chain type	unknown

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab2369 in the following tested applications.

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

Application	Abreviews	Notes
IHC-P		1/50 - 1/100. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. ABC method.
IHC-Fr		1/50 - 1/100. ABC method.

Target

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.

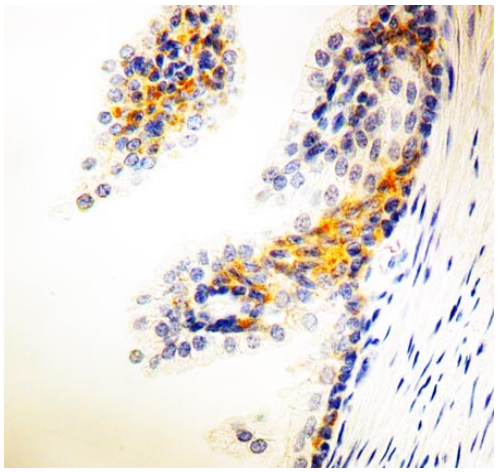
Tissue specificity Type I isoforms are the predominant forms expressed in the endocardium. Isoform alpha is expressed in breast, ovary, testis, prostate, heart, skeletal muscle, lung, placenta liver, kidney, salivary gland, small intestine and brain, but not in uterus, stomach, pancreas, and spleen.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



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NRG1 antibody [7D5] (ab2369)

Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human prostate carcinoma tissue, staining NRG1 with ab2369.

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