SANTA CRUZ BIOTECHNOLOGY, INC.

Neuregulin-1 (T-13): sc-33269

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The neuregulins are a family of ErbB/HER ligands encoded by four genes. Neuregulin-1 gene, NRG1, encodes numerous splice variants with differing transcription initiation sites. Neuregulin-1 includes a range of isoforms with varying glycosylation, regulation of expression and function. Neuregulin-1 splice variants each bear an EGF-like domain, though otherwise have unique domain structures, differing functions and discrete tissue distribution. Six types of Neuregulin-1 isoform groups have been defined based on their structural features. Three types are most often described, Type I (ARIA, NDF or HRG), Type II (GGF) and Type III (SMDF). Neuregulin-1 has been linked to schizophrenia and has diverse neural functions. Neuregulin-1 affects cell migration, the differentiation of neural crest and Schwann cells, and acts to upregulate the expression of acetylcholine receptors at muscle fibers during the formation of neuromuscular junctions.

REFERENCES

1. Coussens, L., et al. 1985. Tyrosine kinase receptor with extensive homology to EGF receptor shares chromosomal location with Neu oncogene. Science 230: 1132-1139.
2. Holmes, W.E., et al. 1992. Identification of heregulin, a specific activator of $p185^{ErbB4}$. Science 256: 1205-1210.
3. Marchionni, M.A., et al. 1993. Glial growth factors are alternatively spliced ErbB2 ligands expressed in the nervous system. Nature 362: 312-318.
4. Meyer, D., et al. 1997. Isoform-specific expression and function of neuregulin. Development 124: 3575-3586
5. Britsch, S., et al. 1998. The ErbB-2 and ErbB-3 receptors and their ligand, Neuregulin-1, are essential for development of the sympathetic nervous system. Genes Dev. 12: 1825-1836.
6. Steinthorsdottir, V., et al. 2004. Multiple novel transcription initiation sites for NRG-1. Gene 342: 97-105.

CHROMOSOMAL LOCATION

Genetic locus: NRG1 (human) mapping to 8p12.

SOURCE

Neuregulin-1 (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of Neuregulin-1 isoform HRG-α of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33269 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Neuregulin-1 (T-13) is recommended for detection of Neuregulin-1 isoforms HRG-α, HRG-α1A, HRG-α2B, HRG-α3, HRG-β1, HRG-β2, HRG-β3 (GGF), GGF2 and SMDF of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

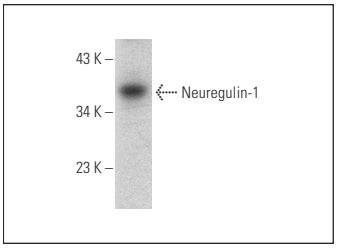
Neuregulin-1 (T-13) is also recommended for detection of Neuregulin-1 isoforms HRG-α, HRG-α1A, HRG-α2B, HRG-α3, HRG-β1, HRG-β2, HRG-β3 (GGF), GGF2 and SMDF in additional species, including canine.

Suitable for use as control antibody for Neuregulin-1 siRNA (h): sc-37210, Neuregulin-1 shRNA Plasmid (h): sc-37210-SH and Neuregulin-1 shRNA (h) Lentiviral Particles: sc-37210-V.

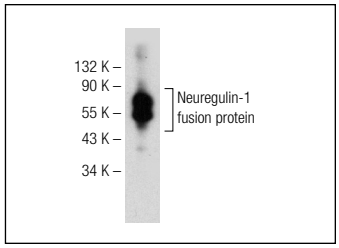
Molecular Weight of Neuregulin-1 isoforms: 32-71 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232.

DATA



Neuregulin-1 (T-13): sc-33269. Western blot analysis of Neuregulin-1 expression in MDA-MB-231 whole cell lysate.



Neuregulin-1 (T-13): sc-33269. Western blot analysis of human recombinant Neuregulin-1 fusion protein.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.