SANTA CRUZ BIOTECHNOLOGY, INC.

# Neuregulin-1α/β1/2 (F-20): sc-537

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The neuregulins are a family of ErbB/HER ligands encoded by four genes. Neuregulin-1 gene, NRG-1, 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Neuregulin-1α/β1/2 (F-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus 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-537 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Neuregulin-1α/β1/2 (F-20) is recommended for detection of Neuregulin-1 isoforms HRG-α, HRG-α1A, HRG-α2B, HRG-β1, HRG-β2, and Type IV-β1a 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), immunohistochemistry (including paraffin-embedded sections) (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-1α/β1/2 (F-20) is also recommended for detection of Neuregulin-1 isoforms HRG-α, HRG-α1A, HRG-α2B, HRG-β1, HRG-β2 and Type IV-β1a in additional species, including canine, porcine and avian.

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 HRG-α: 70 kDa.

Molecular Weight of HRG-α1A: 71 kDa.

Molecular Weight of HRG-α2B: 51 kDa.

Molecular Weight of HRG-β1: 71 kDa.

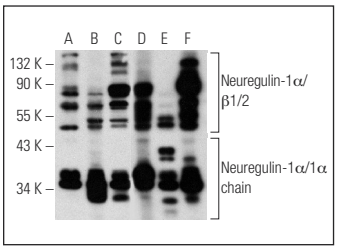
Molecular Weight of HRG-β2: 70 kDa.

Molecular Weight of Type IV-β1a: 65 kDa.

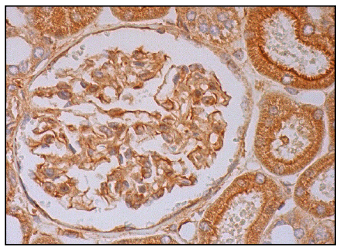
## STORAGE

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

## DATA




Neuregulin-1α/β1/2 (F-20): sc-537. Western blot analysis of Neuregulin-1α/β1/2 expression in THP-1 (**A**), A-431 (**B**), MCF7 (**C**), A-673 (**D**), SK-N-MC (**E**) and MDA-MB-231 (**F**) whole cell lysates.



Neuregulin-1α/β1/2 (F-20): sc-537. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and membrane staining of cells in glomeruli and cells in tubules.

## SELECT PRODUCT CITATIONS


1. Liu, X., Hwang, H., Cao. L., Wen. D., Liu. N., Graham. R.M. and Zhou M. 1998. Release of the neuregulin functional polypeptide requires its cytoplasmic tail. J. Biol. Chem. 273: 34335-34340.
2. Chen, M.H., Yang, W.K., Whang-Peng, J., Lee, L.S. and Huang, T.S. 1998. Differential inducibilities of GFAP expression, cytostasis and apoptosis in primary cultures of human astrocytic tumours. Apoptosis 3: 171-182.
3. Fluge, O., Akslen, L.A., Haugen, D.R., Varhaug, J.E. and Lillehaug, J.R. 2000. Expression of heregulins and associations with the ErbB family of tyrosine kinase receptors in papillary thyroid carcinomas. Int. J. Cancer 87: 763-770.
4. Herrlich, A., Leitch, V. and King, L.S. 2004. Role of proneuregulin 1 cleavage and human epidermal growth factor receptor activation in hypertonic aquaporin induction. Proc. Natl. Acad. Sci. USA 101: 15799-15804.
5. Dejaegere, T., Serneels, L., Schäfer, M.K., Van Biervliet, J., Horré, K., Depboylu, C., Alvarez-Fischer, D., Herreman, A., Willem, M., Haass, C., Höglinger, G.U., D'Hooge, R. and De Strooper, B. 2008. Deficiency of Aph1B/C-γ-secretase disturbs Nrg1 cleavage and sensorimotor gating that can be reversed with antipsychotic treatment. Proc. Natl. Acad. Sci. USA 105: 9775-9780.


## RESEARCH USE

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