

PRODUCT INFORMATION

Neuregulin-1 Type I- β 2b Extracellular Domain (human, recombinant; aa 20-238)

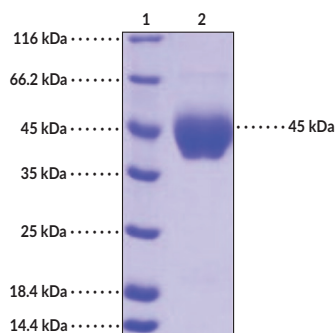
Item No. 32094

Overview and Properties

Synonyms:	Heregulin β 2b, HRG- β 2b, NDF- β 2b, Neu Differentiation Factor β 2b, NRG1- β 2b, NRG1 Type I Isoform β 2b
Source:	Recombinant human C-terminal His-tagged neuregulin-1 type I- β 2b extracellular domain expressed in HEK293 cells
Amino Acids:	20-238
Uniprot No.:	Q02297
Molecular Weight:	25.3 kDa
Storage:	-80°C (as supplied)
Stability:	≥ 1 year
Purity:	$\geq 95\%$ estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	< 1.0 EU/ μ g, determined by the LAL endotoxin assay
Bioactivity:	See figure for details

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers

Lane 2: Neuregulin-1 Type I- β 2b Extracellular Domain

SDS-PAGE Analysis of Neuregulin-1 Type I- β 2b Extracellular Domain. This protein has a calculated molecular weight of 25.3 kDa. It has an apparent molecular weight of approximately 45 kDa by SDS-PAGE due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Neuregulin-1 type I- β 2b is a trophic factor and member of the neuregulin-1 family of growth factors, which comprises greater than 30 isoforms grouped into types I through VI based on their N-terminal region, which is generated by alternative splicing of *NRG1*.¹ It is composed of a type I N-terminal domain, an immunoglobulin-like (Ig-like) domain, a glycosylated domain, an EGF-like domain, a linker region that contains a proteolytic cleavage site to release the mature protein, a transmembrane domain, and a cytoplasmic tail.^{2,3} The type I- β 2b splice variant of *Nrg1* is mainly expressed in the brain and stomach but is also expressed at low levels in most tissues.² Neuregulin-1 signaling is mediated by homodimers of HER4 and the heterodimers HER2-HER3, HER2-HER4, HER3-HER4, and EGFR-HER4.¹ The cytoplasmic domain of neuregulin-1 type I- β 2b induces apoptosis in breast cancer cells, and the mature protein induces apoptosis in fibroblasts *in vitro*.^{2,3} This protein consists of 230 amino acids and has a calculated molecular weight of 25.3 kDa. By SDS-PAGE, the apparent molecular mass of the protein is approximately 45 kDa due to glycosylation.

References

1. Mei, L. and Xiong, W.-C. Neuregulin 1 in neural development, synaptic plasticity and schizophrenia. *Nat. Rev. Neurosci.* **9**(6), 437-452 (2008).
2. Grimm, S. and Leder, P. An apoptosis-inducing isoform of neu differentiation factor (NDF) identified using a novel screen for dominant, apoptosis-inducing genes. *J. Exp. Med.* **185**(6), 1137-1142 (1997).
3. Weinstein, E.J., Grimm, S., and Leder, P. The oncogene heregulin induces apoptosis in breast epithelial cells and tumors. *Oncogene* **17**(16), 2107-2113 (1998).

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