PRODUCT INFORMATION

Neuregulin-1 Type I-α EGF Domain (human, recombinant)

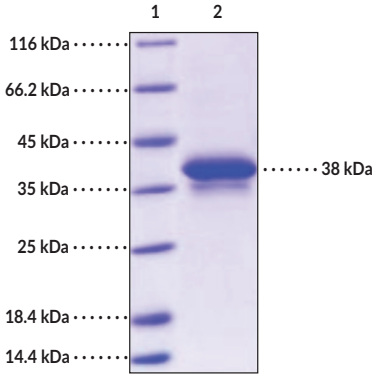
Item No. 42760

Overview and Properties

Synonyms:	Heregulin α, HRG-α, NDF-α, Neu Differentiation Factor α, NRG1-α, NRG1 Type I Isoform α
Source:	Active recombinant N-terminal human IgG1 Fc-tagged neuregulin-1 type I-α EGF domain expressed in HEK293 cells
Amino Acids:	177-241
Uniprot No.:	Q02297-1
Molecular Weight:	35.8 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥97% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Specific Activity:	1. Measured by its ability to bind to biotinylated human HER4 in a functional ELISA. 2. Measured by its ability to bind to biotinylated rhesus monkey HER3 in a functional ELISA.

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-α EGF Domain

SDS-PAGE Analysis of Neuregulin-1 Type I-α EGF Domain. This protein has a calculated molecular weight of 35.8 kDa. It has an apparent molecular weight of approximately 38 kDa by SDS-PAGE under reducing conditions.

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Description

Neuregulin-1 (NRG1) type I-α 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.[1,2] NRG1 type I-α is expressed in brain, liver, and cardiac microvascular endothelial cells and plays a role in neural development, nerve regeneration, and gluconeogenesis.[1,3-6] NRG1 signaling is mediated by homodimers of HER4 and the heterodimers HER2-HER3, HER2-HER4, HER3-HER4, and EGFR-HER4.[1] Low tumor levels of NRG1 type I-α are associated with decreased progression-free and overall survival in patients with breast cancer.[7] Cayman's Neuregulin-1 Type I-α EGF Domain (human, recombinant) protein can be used for binding assays. This protein is a disulfide-linked homodimer. The reduced monomer, composed of NRG1 type I-α (amino acids 177-241) fused to human IgG1 Fc at its N-terminus, consists of 326 amino acids and has a calculated molecular weight of 35.8 kDa. The monomer migrates at approximately 38 kDa by SDS-PAGE under reducing conditions.

References

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6. De Souza, F.I., Zumiotti, A.V., and Da Silva, C.F. Neuregulins 1-α and 1-β on the regeneration the peripheral nerves. *Acta Ortop Bras.* **18(5)**, 250-254 (2010).
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