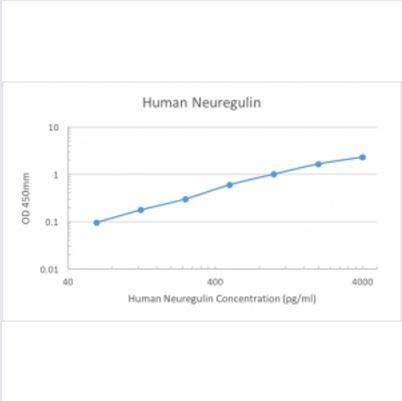
Neuregulin (NRG1) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Neuregulin (NRG1), ELISA Kit
Full Product Name	Human Neuregulin Pre-Coated ELISA Kit
Product Gene Name	NRG1 elisa kit
Species Reactivity	Human
Assay Type	Solid Phase Sandwich ELISA: 96-Well Strip Plate
Detection Range	62.5pg/ml-4000pg/ml
Sensitivity	<10pg/ml
Specificity	Natural and recombinant Human Neuregulin
Preparation and Storage	Store the unopened product at 2-8 degree C.
Molecular Weight	70,392 Da
Chromosome Location	Chromosome: 8; NC_000008.10 (31496820..32622558). Location: 8p12
OMIM	142445
3D Structure	ModBase 3D Structure for Q02297
Components	Anti-Human Neuregulin Pre-coated 96-well strip microplate Human Neuregulin Standard Human Neuregulin Biotinylated antibody (100x) Avidin-Biotin-Peroxidase Complex (100x) Sample Diluent Antibody Diluent Avidin-Biotin-Peroxidase Diluent Wash Buffer Concentrate (Powder for 1000mL) Color Developing Reagent Stop Solution Plate Sealers
Interference	No detectable cross-reactivity with other relevant proteins
Related Product Information for NRG1 elisa kit	Neuregulin/Heregulin is a family of structurally related polypeptide growth factors derived from alternatively spliced genes (NRG1, NRG2, NRG3 and NRG4). To date, there are over 14 soluble and transmembrane proteins derived from the NRG1 gene. Proteolytic processing of the extracellular domain of the transmembrane NRG1 isoforms releases soluble growth factors. HRG1-beta1 contains an Ig domain and an EGF-like domain; the latter is necessary for direct binding to receptor tyrosine kinases erb3 and erb4. This binding induces erb3 and erb4 heterodimerization with erb2, stimulating intrinsic kinase activity that leads to tyrosine phosphorylation. Human Neuregulin Pre-Coated ELISA (Enzyme-Linked Immunosorbent Assay) kit is a solid phase immunoassay specially designed to measure Neuregulin with a 96-well strip plate that is pre-coated with mouse monoclonal antibody specific for Neuregulin. It contains E Coli-expressed recombinant Neuregulin. The detection antibody is a biotinylated goat polyclonal antibody specific for Neuregulin. The kit is analytically validated with ready to use reagents.
Other Notes	Small volumes of NRG1 elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for NRG1 purchase	MBS697348 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Neuregulin (NRG1) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing NRG1. The ELISA analytical biochemical technique of the MBS697348 kit is based on NRG1 antibody-NRG1 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect NRG1 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, NRG1. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).



Typical Testing Data/Standard Curve (for reference only) of NRG1 elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for NRG1. It may not necessarily be applicable to this product.

NCBI GI #	236461509
NCBI GeneID	3084
NCBI Accession #	NP_001153467.1
UniProt Primary Accession #	Q02297
UniProt Secondary Accession #	O14667; P98202; Q02298; Q02299; Q07110; Q07111; A5YAK4; A5YAK5; A8K1L2; B7Z4Z3; E9PHH4
UniProt Related Accession #	Q02297
GenBank Nucleotide #	NM_001159995.1
NCBI Official Full Name	pro-neuregulin-1, membrane-bound isoform isoform HRG-beta1c
NCBI Official Synonym Full Names	neuregulin 1
NCBI Official Symbol	NRG1
NCBI Official Synonym Symbols	GGF; HGL; HRG; NDF; ARIA; GGF2; HRG1; HRGA; SMDF; MST131
UniProt Protein Name	Pro-neuregulin-1, membrane-bound isoform
UniProt Synonym Protein Names	Acetylcholine receptor-inducing activity; ARIA; Breast cancer cell differentiation factor p45; Glial growth factor; Heregulin; HRG; Neu differentiation factor; Sensory and motor neuron-derived factor
Protein Family	Pro-neuregulin
UniProt Gene Name	NRG1
UniProt Synonym Gene Names	GGF; HGL; HRGA; NDF; SMDF; Pro-NRG1; ARIA; HRG
UniProt Entry Name	NRG1_HUMAN
NCBI Protein Information	pro-neuregulin-1, membrane-bound isoform; MSTP131; pro-NRG1; glial growth factor; neu differentiation factor; neuregulin 1 type IV beta 3; neuregulin 1 type IV beta 1a; sensory and motor neuron derived factor; heregulin, alpha (45kD, ERBB2 p185-activator)

NCBI Summary for NRG1	The protein encoded by this gene was originally identified as a 44-kD glycoprotein that interacts with the NEU/ERBB2 receptor tyrosine kinase to increase its phosphorylation on tyrosine residues. This protein is a signaling protein that mediates cell-cell interactions and plays critical roles in the growth and development of multiple organ systems. It is known that an extraordinary variety of different isoforms are produced from this gene through alternative promoter usage and splicing. These isoforms are tissue-specifically expressed and differ significantly in their structure, and thereby these isoforms are classified into types I, II, III, IV, V and VI. The gene dysregulation has been linked to diseases such as cancer, schizophrenia and bipolar disorder (BPD). [provided by RefSeq, May 2009]
UniProt Comments for NRG1	NRG1: 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. The cytoplasmic domain interacts with the LIM domain region of LIMK1. Interacts with ERBB3 and ERBB4. 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. Belongs to the neuregulin family. 10 isoforms of the human protein are produced by alternative splicing. Protein type: Membrane protein, integral; Cell development/differentiation; Ligand, receptor tyrosine kinase; Motility/polarity/chemotaxis; Cytokine Chromosomal Location of Human Ortholog: 8p12 Cellular Component: extracellular space; membrane; integral to plasma membrane; axon; apical plasma membrane; cytoplasm; extracellular region; nucleus; neuromuscular junction Molecular Function: ErbB-2 class receptor binding; protein binding; transmembrane receptor protein tyrosine kinase activator activity; growth factor activity; ErbB-3 class receptor binding; transcription cofactor activity; cytokine activity; protein tyrosine kinase activator activity; receptor tyrosine kinase binding; receptor binding Biological Process: regulation of protein heterodimerization activity; positive regulation of cell adhesion; transmembrane receptor protein tyrosine kinase activation (dimerization); neural crest cell development; cellular protein complex disassembly; nerve growth factor receptor signaling pathway; wound healing; cell morphogenesis; ventricular cardiac muscle cell differentiation; locomotory behavior; positive regulation of striated muscle cell differentiation; cardiac muscle cell differentiation; synaptogenesis; mammary gland development; cell communication; positive regulation of cardiac muscle cell proliferation; epidermal growth factor receptor signaling pathway; nervous system development; cell migration; fibroblast growth factor receptor signaling pathway; phosphoinositide-mediated signaling; neurotransmitter receptor metabolic process; regulation of protein homodimerization activity; MAPKKK cascade; neuron fate commitment; positive regulation of cell growth; peripheral nervous system development; positive regulation of protein kinase B signaling cascade; cell proliferation; embryonic development; glial cell fate commitment; innate immune response; negative regulation of secretion; positive regulation of Ras protein signal transduction; negative regulation of protein catabolic process; negative regulation of transcription, DNA-dependent; transmembrane receptor protein tyrosine kinase signaling pathway Disease: Schizophrenia 6
Research Articles on NRG1	**1.** NRG1 is a putative susceptibility gene for a spectrum of major psychiatric disorders such as schizophrenia
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