ARG82828
Human NRG1 / Heregulin beta 1 ELISA Kit

Package: 96 wells
Store at: 4°C

Component

Cat. No.	Component Name	Package	Temp
ARG82828-001	Antibody-coated microplate	8 X 12 strips	4°C. Unused strips should be sealed tightly in the air-tight pouch.
ARG82828-002	Standard	2 X 10 ng/vial	4°C
ARG82828-003	Standard/Sample diluent	30 ml (Ready to use)	4°C
ARG82828-004	Antibody conjugate concentrate (100X)	1 vial (100 µl)	4°C
ARG82828-005	Antibody diluent buffer	12 ml (Ready to use)	4°C
ARG82828-006	HRP-Streptavidin concentrate (100X)	1 vial (100 µl)	4°C
ARG82828-007	HRP-Streptavidin diluent buffer	12 ml (Ready to use)	4°C
ARG82828-008	25X Wash buffer	20 ml	4°C
ARG82828-009	TMB substrate	10 ml (Ready to use)	4°C (Protect from light)
ARG82828-010	STOP solution	10 ml (Ready to use)	4°C
ARG82828-011	Plate sealer	4 strips	Room temperature

Summary

Product Description	ARG82828 Human NRG1 / Heregulin beta 1 ELISA Kit is an Enzyme Immunoassay kit for the quantification of Human NRG1 / Heregulin beta 1 in serum, plasma (EDTA, heparin) and cell culture supernatants.
Tested Reactivity	Hu
Tested Application	ELISA
Target Name	NRG1 / Heregulin beta 1
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm.
Sensitivity	31.3 pg/ml
Sample Type	Serum, plasma (EDTA, heparin) and cell culture supernatants.
Standard Range	62.5 - 4000 pg/ml
Sample Volume	100 µl
Precision	Intra-Assay CV: 5.6%

	Inter-Assay CV: 6.9%
Alternate Names	Sensory and motor neuron-derived factor; Heregulin; GGF2; Glial growth factor; Acetylcholine receptor-inducing activity; SMDF; ARIA; NRG1-IT2; Neu differentiation factor; HRGA; NDF; Breast cancer cell differentiation factor p45; HGL; GGF; MSTP131; Pro-NRG1; HRG; MST131; HRG1; Pro-neuregulin-1, membrane-bound isoform

Application Instructions

Assay Time	~ 5 hours

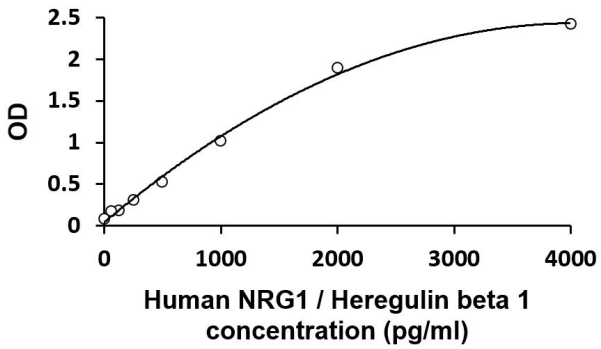
Properties

Form	96 well
Storage instruction	Store the kit at 2-8°C. Keep microplate wells sealed in a dry bag with desiccants. Do not expose test reagents to heat, sun or strong light during storage and usage. Please refer to the product user manual for detail temperatures of the components.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	NRG1
Gene Full Name	neuregulin 1
Background	The protein encoded by this gene is a membrane glycoprotein that mediates cell-cell signaling and plays a critical role in the growth and development of multiple organ systems. An extraordinary variety of different isoforms are produced from this gene through alternative promoter usage and splicing. These isoforms are expressed in a tissue-specific manner and differ significantly in their structure, and are classified as types I, II, III, IV, V and VI. Dysregulation of this gene has been linked to diseases such as cancer, schizophrenia, and bipolar disorder (BPD). [provided by RefSeq, Apr 2016]
Function	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. Binds to ERBB4 (PubMed:10867024, PubMed:7902537). Binds to ERBB3 (PubMed:20682778). Acts as a ligand for integrins and binds (via EGF domain) to integrins ITGAV:ITGB3 or ITGA6:ITGB4. Its binding to integrins and subsequent ternary complex formation with integrins and ERRB3 are essential for NRG1-ERBB signaling. Induces the phosphorylation and activation of MAPK3/ERK1, MAPK1/ERK2 and AKT1 (PubMed:20682778). Ligand-dependent ERBB4 endocytosis is essential for the NRG1-mediated activation of these kinases in neurons (By similarity). [UniProt]
PTM	Proteolytic cleavage close to the plasma membrane on the external face leads to the release of the soluble growth factor form. N- and O-glycosylated. Extensive glycosylation precedes the proteolytic cleavage (By similarity). [UniProt]
Cellular Localization	Pro-neuregulin-1, membrane-bound isoform: Cell membrane; Single-pass type I membrane protein. Note=Does not seem to be active. Neuregulin-1: Secreted. Isoform 8: Nucleus. Note=May be nuclear. Isoform 9: Secreted. Note=Has a signal peptide. Isoform 10: Membrane; Single-pass type I membrane protein. Note=May possess an internal uncleaved signal sequence. [UniProt]

Images



ARG82828 Human NRG1 / Heregulin beta 1 ELISA Kit standard curve image

ARG82828 Human NRG1 / Heregulin beta 1 ELISA Kit results of a typical standard run with optical density reading at 450 nm.