

### Rat NRG1 ELISA Kit ab282300

**重组** SimpleStep ELISA

#### 5 图像

#### 概述

**产品名称** 大鼠NRG1 ELISA试剂盒

**检测方法** Colorimetric

**精确度** 批次内

样品	n	Mean	SD	CV%
Serum	8			2.8%

批次间

样品	n	Mean	SD	CV%
Serum	3			6.28%

**样品类型** Serum, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma

**检测类型** Sandwich (quantitative)

**灵敏度** 36 pg/ml

**范围** 125 pg/ml - 8000 pg/ml

**回收率** 特定样本回收率

样品类型	平均%	范围
Serum	119	118% - 120%
Cell culture media	120	119% - 121%
Hep Plasma	80	80% - 80%
EDTA Plasma	116	114% - 118%
Cit plasma	107	100% - 111%

**检测时间** 1h 30m

**实验步骤** One step assay

**种属反应性**

与反应: Rat

**产品概述**

Rat NRG1 ELISA kit (ab282300) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Rat NRG1 protein in rat serum, plasma, and cell culture supernatant samples. It uses our proprietary SimpleStep ELISA® technology. Quantitate Rat NRG1 with 36.0 pg/mL sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate ([ab203359](#)) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

**说明**

NRG1 is a type of signal protein encoded by the *NRG1* gene that is one of the four proteins in the neuregulin family. NRG1 is known to recognize the EGFR family as well to activate the ERBB family for cell differentiation, proliferation, migration, and development in neurons and oligodendrocytes. Studies show when injecting NRG1 gene in Schwann cells can significantly increase the effect on the repair of spinal cord injury and provide protection of neurons from apoptosis.

**平台**

Pre-coated microplate (12 x 8 well strips)

**性能****存放说明**

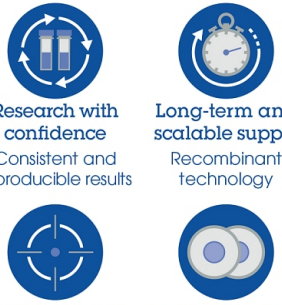
Store at +4°C. Please refer to protocols.

组件	1 x 96 tests
10X Rat NRG1 Capture Antibody	1 x 600µl
10X Rat NRG1 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent CPR2	1 x 6ml
Plate Seals	1 unit
Rat NRG1 Lyophilized Recombinant Protein	2 vials
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit

组件	1 x 96 tests
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

<b>功能</b>	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.
<b>组织特异性</b>	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.
<b>疾病相关</b>	Note=A chromosomal aberration involving NRG1 produces gamma-heregulin. Translocation t(8;11) with ODZ4. The translocation fuses the 5'-end of ODZ4 to NRG1 (isoform 8). The product of this translocation was first thought to be an alternatively spliced isoform. Gamma-heregulin is a soluble activating ligand for the ERBB2-ERBB3 receptor complex and acts as an autocrine growth factor in a specific breast cancer cell line (MDA-MB-175). Not detected in breast carcinoma samples, including ductal, lobular, medullary, and mucinous histological types, neither in other breast cancer cell lines.
<b>序列相似性</b>	Belongs to the neuregulin family. Contains 1 EGF-like domain. Contains 1 Ig-like C2-type (immunoglobulin-like) domain.
<b>发展阶段</b>	Detectable at early embryonic ages. Isoform 10 is highly expressed in developing spinal motor neurons and in developing cranial nerve nuclei. Expression is maintained only in both adult motor neurons and dorsal root ganglion neurons. Type IV isoforms are expressed in fetal brain.
<b>结构域</b>	The cytoplasmic domain may be involved in the regulation of trafficking and proteolytic processing. Regulation of the proteolytic processing involves initial intracellular domain dimerization. ERBB receptor binding is elicited entirely by the EGF-like domain.
<b>翻译后修饰</b>	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.
<b>细胞定位</b>	Secreted; Cell membrane. Does not seem to be active; Membrane. May possess an internal uncleaved signal sequence; Nucleus. May be nuclear and Secreted. Has a signal peptide.

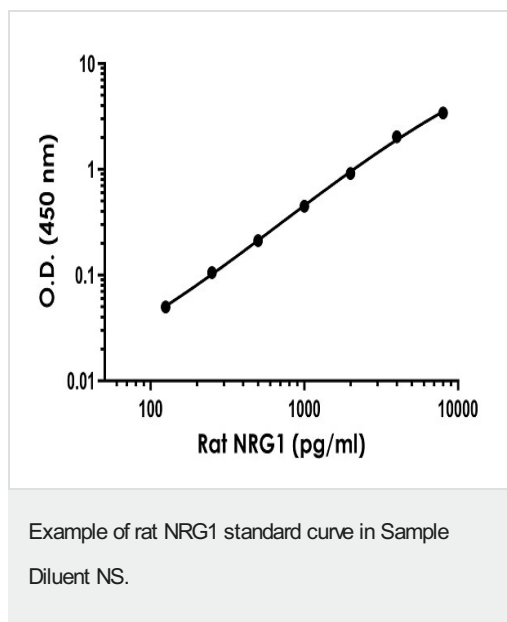
Powered by recombinant antibodies



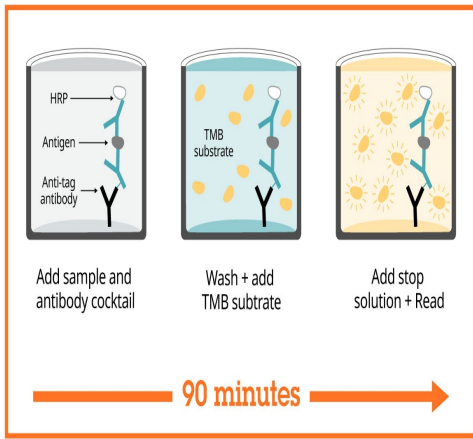
- Research with confidence**  
Consistent and reproducible results
- Long-term and scalable supply**  
Recombinant technology
- Success from the first experiment**  
Confirmed specificity
- Ethical standards compliant**  
Animal-free production

Recombinant Antibody Benefits

To learn more about the advantages of recombinant antibodies see [here](#).

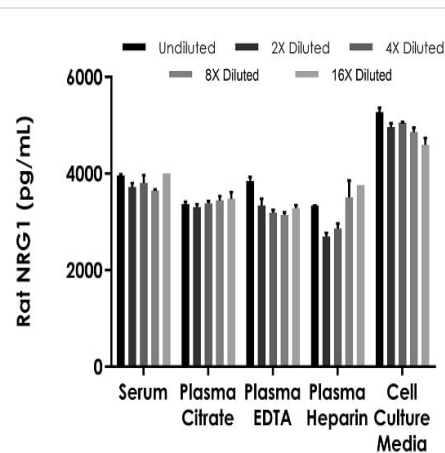


The NRG1 standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



Sandwich ELISA - Rat NRG1 ELISA Kit (ab282300)

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Interpolated concentrations of spike NRG1 in rat serum and plasma samples.

The concentrations of NRG1 were measured in duplicates, interpolated from the NRG1 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 25%, plasma (citrate) 25%, plasma (EDTA) 25%, and plasma (heparin) 12.5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

**Get more done with SimpleStep ELISA**

- Easy to use**  
Single-wash 90-minute protocol
- Flexible**  
Matched antibody pairs available
- Precision antibodies**  
High sensitivity, specificity and reproducibility
- Scalable**  
Now in 10-pack and 384-well formats

Sandwich ELISA - Rat NRG1 ELISA Kit (ab282300)

To learn more about the advantages of SimpleStep ELISA<sup>®</sup> kits see [here](#).

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