Human/Rat Neuregulin-2/NRG2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4484

DESCRIPTION

Species Reactivity	Human/Rat
Specificity	Detects human and rat Neuregulin-2/NRG2 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Neuregulin-2/NRG2 Cys112-Arg405 Accession # O14511
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

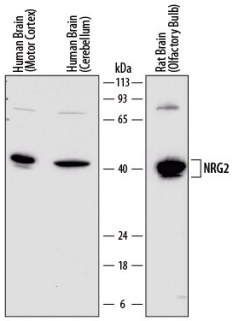
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below

DATA

Western Blot



Detection of Human and Rat Neuregulin-2/NRG2 by Western Blot. Western blot shows lysates of human brain (motor cortex) tissue, human brain (cerebellum) tissue, and rat brain (olfactory bulb) tissue. PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human Neuregulin-2/NRG2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4484) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). Specific bands were detected for Neuregulin-2/NRG2 at approximately 43-45 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

NRG2 (Neuregulin 2; also DON-1 and NTAK) is a member of a four gene family of ErbB binding proteins. It is expressed by spinal cord motor neurons, Schwann cells, cerebellar Purkinje cells, plus cerebellar and dentate granule cells. Notably on neurons, NRG2 is dendrite-associated. There are multiple isoforms for NRG2, and their expression appear to be cell-specific. NRG2 has a number of activities. It is reported to induce acetylcholine receptor transcription, and to either promote or inhibit cell proliferation in an isoform and cell-specific manner. Human NRG2 is synthesized as an 850 amino acid (aa) proprecursor, possibly representing a type III transmembrane (TM) protein. It possesses a 111 aa N-terminal prosequence, a 294 aa extracellular region (aa 112-405), and a 424 aa cytoplasmic domain (aa 427-850). The extracellular region contains one Ig-like C2-type domain (aa 237-332) and an EGF-like domain (aa 341-382). As noted, NRG2 has at least 10 isoform variants, almost all of which are created by either the use of an alternative start site or exon splicing of the EGF domain. There are four main types; α, β, γ and δ. The isoform associated with this antibody is the α form based on the peptide sequence covering aa 373-397. The β isoform, by contrast, possesses an 18-24 aa substitution over this sequence, while the γ (or potentially soluble) isoform contains a Gly substitution for aa 372-850, and the δ isoform shows a Glu substitution for the aa 331-397 of the Ig-like domain. It is suggested that TM NRG2 is proteolytically cleaved after Lys404, generating a 53 kDa cytosolic fragment and a 40-45 kDa soluble component that binds to cell-surface proteoglycans. Over aa 112-405, human NRG2(α) shares 97% aa sequence identity with mouse NRG2(α).