**Product datasheet**

**Anti-NRG1 type III antibody ab23248**

**Overview**

**Product name**  Anti-NRG1 type III antibody  
**Description**  Rabbit polyclonal to NRG1 type III  
**Host species**  Rabbit  
**Specificity**  ab23248 detects ~50-55kDa band in rat sciatic nerve, rat and mouse brain lysate. IHC detection with ab23248 in mouse DRG shows a primarily nuclear localisation of the protein rather than the expected cytoplasmic staining (See Bao and Wang references).

**Tested applications**  Suitable for: ICC/IF, IHC-Fr, WB  
**Species reactivity**  Reacts with: Mouse, Rat  
**Predicted to work with:**  Chicken, Human  
**Immunogen**  Synthetic peptide corresponding to Human NRG1 type III aa 50-150 (internal sequence) conjugated to keyhole limpet haemocyanin. (Peptide available as ab23378)  
**Positive control**  mouse L4/5 dorsal root ganglion (DRG) tissue. Expected positive: mouse/rat sciatic nerve; neural crest derived neuroblasts

**Properties**

**Form**  Liquid  
**Storage instructions**  Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.  
**Storage buffer**  Preservative: 0.02% Sodium Azide  
**Purity**  Immunogen affinity purified  
**Clonality**  Polyclonal  
**Isotype**  IgG

**Applications**

Our Abpromise guarantee covers the use of ab23248 in the following tested applications.  
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
NRG1 type III is a sensory and motor neuron-derived factor isoform of Neuregulin 1, specifically expressed in the nervous system: spinal cord motor neurons, dorsal root ganglion neurons, and brain. NRG1 type III is the predominant isoform expressed in sensory and motor neurons. The Nrg1 gene encodes more than 15 transmembrane and secreted protein isoforms, generated by alternative promoter usage and mRNA splicing. Nrg1 subtypes I through III share the epidermal growth factor-like signaling domain and are defined by different amino-termini. The N-terminal cysteine-rich domain (CRD), as found in the sensory and motor neuron-derived factor (SMDF), defines Nrg1 type III, which in embryonic development is responsible for survival of Schwann cell precursors.

**Cellular localization**

Cell Membrane and Secreted

**Relevance**

NRG1 type III is a sensory and motor neuron-derived factor isoform of Neuregulin 1, specifically expressed in the nervous system: spinal cord motor neurons, dorsal root ganglion neurons, and brain. NRG1 type III is the predominant isoform expressed in sensory and motor neurons. The Nrg1 gene encodes more than 15 transmembrane and secreted protein isoforms, generated by alternative promoter usage and mRNA splicing. Nrg1 subtypes I through III share the epidermal growth factor-like signaling domain and are defined by different amino-termini. The N-terminal cysteine-rich domain (CRD), as found in the sensory and motor neuron-derived factor (SMDF), defines Nrg1 type III, which in embryonic development is responsible for survival of Schwann cell precursors.

**Images**

ab23248 detecting NRG1 Type III in mouse L4/5 dorsal root ganglion (DRG) tissue (perfused with 4% paraformaldehyde and cryoprotected overnight, cut on a cryostat at 15µm). Tissue was incubated in blocking serum (normal goat serum) for 1hr, washed 3XPBS before primary antibody incubation in PBS with triton (0.1%) overnight (ab23248 was used at 1/800 = 0.34µg/ml). Secondary antibody used was goat anti-rabbit Alexa 546 (1/1000). The image shown is taken with a X20 objective and shows mostly nuclear NRG1 Type III staining with some cytoplasmic staining (nuclear counterstain with DAPI confirmed this - not shown).
Western blot - Anti-NRG1 type III antibody (ab23248)

All lanes: Anti-NRG1 type III antibody (ab23248) at 1 µg/ml

Lane 1: Mouse Sciatic Nerve Lysate
Lane 2: Mouse Brain
Lane 3: Brain (Rat) Tissue Lysate (ab7942)

Lysates/proteins at 20 µg per lane.

Secondary
All lanes: Rabbit IgG secondary antibody (ab28446) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 27,52,74,75 kDa
Observed band size: 52 kDa

why is the actual band size different from the predicted?

ab23248 picks up an ~50kDa band in WB when tested on rat sciatic nerve, rat brain or mouse brain. This band size concurs with an entry for NRG1 in both Expasy and NCBI databases (Q3URY7). Carroll et al., (J Neurosci. 1997 Mar 1;17(5):1642-59) also detect a 50kDa band in dorsal root ganglion and spinal cord. However, it is surprising that we do not detect more bands; it is likely that ab23248 does not pick up all NRG1 type III isoforms or that there is very restricted expression in the tissues tested here.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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