**BACKGROUND**

Voltage-gated sodium channels are selective ion channels that regulate the permeability of sodium ions in excitable cells. During the propagation of an action potential, sodium channels allow an influx of sodium ions, which rapidly depolarize the cell. The three glycoproteins that comprise the voltage-gated sodium channel proteins include a pore-forming α subunit, a non-covalently associated β1 subunit and a disulfide-linked β2 subunit. The two β subunits regulate the level of channel expression, modulate gating and function as cell adhesion molecules for cellular aggregation and cytoskeleton interaction. The α subunits of sodium channels type I and III are predominantly expressed in neuronal cell bodies and proximal processes, while type Ix subunits are more abundant along axons. The β1 subunit of sodium channel type I is expressed in brain, skeletal and cardiac muscle. In the brain, β1 and β2 are highly expressed in Purkinje cells, and β1 is also expressed in the pyramidal cells of the deep cerebellar nuclei. Impaired voltage-gated sodium channels lead to a number of diseases including myotonia.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: SCN1A (human) mapping to 2q24.3; Scn1a (mouse) mapping to 2 C1.3.

**SOURCE**

Na+ CP type Ix (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Na+ CP type Ix of human origin.

**PRODUCT**

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-16031 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**STORAGE**

Store at 4°C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**APPLICATIONS**

Na+ CP type Ix (C-18) is recommended for detection of sodium channel type Ix of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Na+ CP type Ix (C-18) is also recommended for detection of sodium channel type Ix in additional species, including bovine.

Molecular Weight of Na+ CP type Ix: 260 kDa.

Positive Controls: mouse brain extract: sc-2253.

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2043 (dilution range: 1:1000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (dilution range: 1:100-1:400) or donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

**DATA**

![Na+ CP type Ix (C-18): sc-16031 Western blot analysis of Na+ CP type Ix expression in mouse brain tissue extract.](image)

**SELECT PRODUCT CITATIONS**