

Na⁺ CP type III β (K-20): sc-49726

BACKGROUND

Voltage-gated Na⁺ channels regulate the permeability of excitable cells to sodium ions. During the propagation of an action potential, Na⁺ channels allow an influx of sodium ions, which rapidly depolarize the cell. The sodium channel protein is comprised of one α subunit and two β subunits. The Na⁺ CP type I and Na⁺ CP type II α subunits are expressed in adult brain. Na⁺ CP type III α is expressed in embryonic brain, but not in adult brain. Na⁺ CP type III β is a 215 amino acid, single-pass type I membrane protein that modulates sodium channel gating kinetics and inactivates the channel opening more slowly than the I β subunit. It has an extracellular N-terminal domain, an N-terminal signal sequence, a single membrane-spanning region and a C-terminal cytoplasmic region. Expression of Na⁺ CP type III β is upregulated in response to DNA damage. In association with Neurofascin, Na⁺ CP type III β may target the sodium channels to nodes of Ranvier of developing axons and retain these channels at the nodes in mature myelinated axons.

CHROMOSOMAL LOCATION

Genetic locus: SCN3B (human) mapping to 11q24.1; Scn3b (mouse) mapping to 9 A5.1.

SOURCE

Na⁺ CP type III β (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Na⁺ CP type III β of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49726 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Na⁺ CP type III β (K-20) is recommended for detection of Na⁺ CP type III β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 III β (K-20) is also recommended for detection of Na⁺ CP type III β in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Na⁺ CP type III β siRNA (h): sc-61136, Na⁺ CP type III β siRNA (m): sc-61137, Na⁺ CP type III β shRNA Plasmid (h): sc-61136-SH, Na⁺ CP type III β shRNA Plasmid (m): sc-61137-SH, Na⁺ CP type III β shRNA (h) Lentiviral Particles: sc-61136-V and Na⁺ CP type III β shRNA (m) Lentiviral Particles: sc-61137-V.

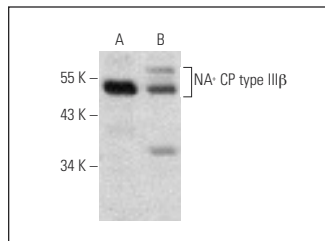
Molecular Weight of Na⁺ CP type III β : 47 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, mouse brain extract: sc-2253 or human fetal brain whole cell lysate.

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-2033 (dilution range: 1:2000-1:5000), 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 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use 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 III β (K-20): sc-49726. Western blot analysis of Na⁺ CP type III β expression in HeLa whole cell lysate (A) and mouse brain tissue extract (B).

STORAGE

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

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **Na⁺ CP type III β (C-11): sc-515123**, our highly recommended monoclonal alternative to Na⁺ CP type III β (K-20).