SANTA CRUZ BIOTECHNOLOGY, INC.

# Na+ CP type VIIIα (Q-15): sc-168694

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The sodium channel protein type 8 subunit α (Na+ CP type VIIIα ) is a multi-pass, transmembrane protein that mediates the sodium ion permeability of excitable membranes. The three glycoproteins that comprise the voltage-gated sodium channel proteins include a pore-forming α subunit, a noncovalently 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 IIα subunits are more abundant along axons. Sodium channels are important for rapid signal transduction but also play a significant role in neuronal development. Defects of the SCN8A gene have exhibited detrimental effects on the growth of secondary motoneurons. Loss of SCN8A expression will result in progressive paralysis and early death.

## REFERENCES


1. Meisler, M.H., et al. 2006. Gene symbol: SCN8A. Disease: Ataxia. Accession #Hd0520. Hum. Genet. 118: 776.
2. Mercer, J.N., et al. 2007. Nav1.6 sodium channels are critical to pacemaking and fast spiking in globus pallidus neurons. J. Neurosci. 27: 13552-13566.
3. Sun, Y., et al. 2007. Comparison of γ-aminobutyrate receptors in the medial vestibular nucleus of control and Scn8a mutant mice. Brain Res. 1186: 188-193.
4. Martin, M.S., et al. 2007. The voltage-gated sodium channel Scn8a is a genetic modifier of severe myoclonic epilepsy of infancy. Hum. Mol. Genet. 16: 2892-2899.
5. Drews, V.L., et al. 2007. Identification of evolutionarily conserved, functional noncoding elements in the promoter region of the sodium channel gene SCN8A. Mamm. Genome 18: 723-731.
6. Black, J.A., et al. 2007. Sodium channel expression within chronic multiple sclerosis plaques. J. Neuropathol. Exp. Neurol. 66: 828-837.
7. Zhu, H.L., et al. 2008. Molecular and biophysical properties of voltage-gated Na+ channels in murine vas deferens. Biophys. J. 94: 3340-3351.
8. McKinney, B.C., et al. 2008. Exaggerated emotional behavior in mice heterozygous for the sodium channel Scn8a (Na(v)1.6). Genes Brain Behav. 7: 629-638.
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## CHROMOSOMAL LOCATION

Genetic locus: SCN8A (human) mapping to 12q13.13; Scn8a (mouse) mapping to 15 F1.

## STORAGE

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

## SOURCE

Na+ CP type VIIIα (Q-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Na+ CP type VIIIα of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-168694 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Na+ CP type VIIIα (Q-15) is recommended for detection of Na+ CP type VIIIα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 VIIIα (Q-15) is also recommended for detection of Na+ CP type VIIIα in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Na+ CP type VIIIα siRNA (h): sc-96200, Na+ CP type VIIIα siRNA (m): sc-149786, Na+ CP type VIIIα shRNA Plasmid (h): sc-96200-SH, Na+ CP type VIIIα shRNA Plasmid (m): sc-149786-SH, Na+ CP type VIIIα shRNA (h) Lentiviral Particles: sc-96200-V and Na+ CP type VIIIα shRNA (m) Lentiviral Particles: sc-149786-V.

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

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

## 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) 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.

## RESEARCH USE

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


MONOS Satisfaction Guaranteed

Try **Na+ CP type VIIIα (W-78): sc-81884**, our highly recommended monoclonal aternative to Na+ CP type VIIIα (Q-15).