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 Iα 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 Iα (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Na+ CP type Iα 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-31449 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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