

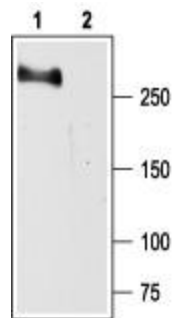


**Background:**

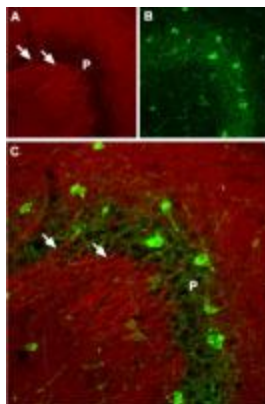
Voltage-gated sodium channels (Nav) are essential for the generation of action potentials and for cell excitability. Nav channels are activated in response to depolarization and selectively allow flow of Na<sup>+</sup> ions. To date, nine Nav  $\alpha$  subunits have been cloned and named Nav1.1-Nav1.9.4-5 The Nav channels are classified into two groups according to their sensitivity to Tetrodotoxin (TTX): TTX-sensitive (Nav1.1, Nav1.2, Nav1.3, Nav1.4, Nav1.6 and Nav1.7) and TTX-resistant (Nav1.5, Nav1.8 and Nav1.9). Mammalian sodium channels are heterotrimers, composed of a central, pore-forming  $\alpha$  subunit and two auxiliary  $\beta$  subunits. The expression of the  $\alpha$  subunit isoform is developmentally regulated and tissue specific. Sodium channels in the adult central nervous system and heart contain  $\beta$ 1 through  $\beta$ 4 subunits, whereas sodium channels in adult skeletal muscle have only the  $\beta$ 1 subunit. Nav1.2 is primarily expressed in the central nervous system (CNS) and is localized in unmyelinated or premyelinated axons and dendrites. Mutations in the Nav1.2 channel have been identified in different types of epilepsy.

**Synonyms:**

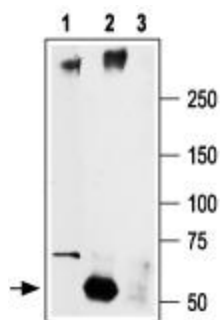
BFIC3; HBA; HBSCI; HBSCII; Na(v)1.2; NAC2; Nav1.2; OTTHUMP00000041050; SCN2A1; SCN2A2

**Product images:**

Western blot analysis of rat brain membranes: 1. Anti-Nav1.2 antibody, (1:200). 2. Anti-Nav1.2 antibody, preincubated with the control peptide antigen.



Expression of Nav1.2 in mouse hippocampus. Immunohistochemical staining of mouse hippocampus using Anti-Nav1.2 antibody. A. Nav1.2 (red) is present in dendrites of pyramidal neurons in the CA3 region. B. Staining of interneurons in the pyramidal layer with mouse anti-Parvalbumin (green) demonstrates the restriction of Nav1.2 to dendrites (arrows) extending from the pyramidal layer (P). C. Confocal merge of panels A and B.



Immunoprecipitation of rat brain lysate: 1. Rat brain lysates 2. Lysates immunoprecipitated with Anti-Nav1.2 antibody, (6  $\mu$ g). 3. Lysates immunoprecipitated with pre-immune rabbit serum. The lower arrow indicates the IgG heavy chain. Western blot analysis was performed with Anti-Nav1.2 antibody.