**HCN3 (E-5): sc-365452**

**BACKGROUND**

Hyperpolarization-activated, cyclic nucleotide-binding channels (HCN) are voltage-gated cation channels that are activated by direct binding of intracellular cyclic nucleotides. The HCN family consists of four members (HCN1-4), each with a core transmembrane segment domain and a C-terminal 120 amino acid cyclic nucleotide-binding domain motif. HCN channels are expressed in the brain, heart, thalamus and testis. The pacemaker properties of HCN channels contribute to spontaneous rhythmic activity in the brain and heart. HCN3 contains a segment characterized by a series of positively charged amino acids at every third position. This region, designated S4, is likely to be the voltage sensor of the protein. In the brain, HCN3 and HCN4 exhibit subcortical distribution mainly concentrated in the hypothalamus and thalamus, respectively.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: HCN3 (human) mapping to 1q22; Hcn3 (mouse) mapping to 3 F1.

**SOURCE**

HCN3 (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 143-181 within cytoplasmic domain of HCN3 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG 1 kappa lightchain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. HCN3 (E-5) is available conjugated to agarose (sc-365452 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365452 HRP), 200 µg/ml, for WB, (HCP) and ELISA; to either phycoerythrin (sc-365452 PE), fluorescein (sc-365452 FITC), Alexa Fluor® 488 (sc-365452 AF488), Alexa Fluor® 546 (sc-365452 AF546), Alexa Fluor® 594 (sc-365452 AF594) or Alexa Fluor® 647 (sc-365452 AF647), 200 µg/ml, for WB (RGB), IF, HIC(P) and FCM; and to either Alexa Fluor® 680 (sc-365452 AF680) or Alexa Fluor® 790 (sc-365452 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365452 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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**APPLICATIONS**

HCN3 (E-5) is recommended for detection of HCN3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).


Molecular Weight of HCN3: 86 kDa.


**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG B P-HRP: sc-516102 or m-IgG B P-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminal Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG B P-FITC: sc-516140 or m-IgG B P-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

HCN3 (E-5): sc-365452. Western blot analysis of HCN3 expression in HCT-116 whole cell lysate (A) and human rectum tissue extract (B).

HCN3 (E-5): sc-365452. Western blot analysis of HCN3 expression in non-transfected: sc-114783 (A) and human HCN3 transfected: sc-114783 (B) 293T whole cell lysates.

**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.