

# KCNH1 (C-11): sc-398585

## BACKGROUND

Voltage-gated potassium channels play an essential role in controlling cellular excitability in the nervous system. They regulate a variety of properties including membrane potential as well as the frequency and structure of action potentials. KCNH1 (potassium voltage-gated channel, subfamily H (eag-related), member 1), also known as ether-a-go-go potassium channel 1, voltage-gated potassium channel subunit Kv10.1, EAG, EAG1 or h-eag, is a 989 amino acid multi-pass membrane protein belonging to the potassium channel family and H (Eag) subfamily. KCNH1 is highly expressed in myoblasts and brain, forms two alternatively spliced isoforms and exists as a pore-forming ( $\alpha$ ) subunit of a voltage-gated non-inactivating delayed rectifier potassium channel. Encoded by a gene located on human chromosome 1, KCNH1 forms a heteromultimer with KCNH5 and also interacts with ALG10.

## REFERENCES

1. Warmke, J.W. and Ganetzky, B. 1994. A family of potassium channel genes related to eag in *Drosophila* and mammals. Proc. Natl. Acad. Sci. USA 91: 3438-3442.
2. Occhiodoro, T., et al. 1998. Cloning of a human ether-a-go-go potassium channel expressed in myoblasts at the onset of fusion. FEBS Lett. 434: 177-182.
3. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 603305. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Ding, X.W., et al. 2007. Aberrant expression of ether-a-go-go potassium channel in colorectal cancer patients and cell lines. World J. Gastroenterol. 13: 1257-1261.
5. Ding, X.W., et al. 2008. Expression and prognostic roles of Eag1 in resected esophageal squamous cell carcinomas. Dig. Dis. Sci. 53: 2039-2044.

## CHROMOSOMAL LOCATION

Genetic locus: KCNH1 (human) mapping to 1q32.2; Kcnh1 (mouse) mapping to 1 H6.

## SOURCE

KCNH1 (C-11) is a mouse monoclonal antibody raised against amino acids 751-875 mapping near the C-terminus of KCNH1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KCNH1 (C-11) is available conjugated to agarose (sc-398585 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398585 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398585 PE), fluorescein (sc-398585 FITC), Alexa Fluor® 488 (sc-398585 AF488), Alexa Fluor® 546 (sc-398585 AF546), Alexa Fluor® 594 (sc-398585 AF594) or Alexa Fluor® 647 (sc-398585 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398585 AF680) or Alexa Fluor® 790 (sc-398585 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

KCNH1 (C-11) is recommended for detection of KCNH1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for KCNH1 siRNA (h): sc-78963, KCNH1 siRNA (m): sc-146362, KCNH1 shRNA Plasmid (h): sc-78963-SH, KCNH1 shRNA Plasmid (m): sc-146362-SH, KCNH1 shRNA (h) Lentiviral Particles: sc-78963-V and KCNH1 shRNA (m) Lentiviral Particles: sc-146362-V.

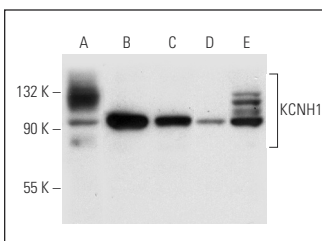
Molecular Weight of KCNH1: 111 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, L8 cell lysate: sc-3807 or SH-SY5Y cell lysate: sc-3812.

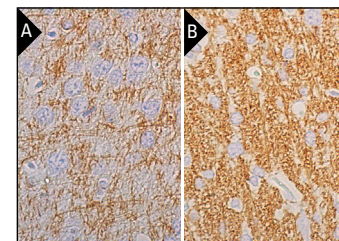
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-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 Luminol 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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



KCNH1 (C-11): sc-398585. Western blot analysis of KCNH1 expression in SH-SY5Y (A), Sol8 (B), L8 (C), SK-N-MC (D) and H4 (E) whole cell lysates.



KCNH1 (C-11): sc-398585. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain (A) and rat brain (B) tissue showing neuropil staining. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgG $\kappa$  BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

## 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.

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