

IK1 (D-5): sc-365265



The Power to Question

BACKGROUND

The intermediate conductance calcium-activated potassium channel protein 4 (SK4 or IK1) is a member of the KCNN family of potassium channels. IK1 is an integral membrane protein that functions in a variety of physiological functions. Activation of the IK1 channel is induced by intracellular calcium levels and regulated by calmodulin.

REFERENCES

1. Warth, R., et al. 1999. Molecular and functional characterization of the small Ca^{2+} -regulated K^+ channel (rSK4) of colonic crypts. *Pflugers Arch.* 438: 437-444.
2. von Hahn, T., et al. 2001. Characterisation of the rat SK4/IK1 K^+ channel. *Cell. Physiol. Biochem.* 11: 219-230.

CHROMOSOMAL LOCATION

Genetic locus: KCNN4 (human) mapping to 19q13.31; Kcnn4 (mouse) mapping to 7 A3.

SOURCE

IK1 (D-5) is a mouse monoclonal antibody raised against amino acids 308-427 mapping at the C-terminus of IK1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IK1 (D-5) is available conjugated to agarose (sc-365265 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365265 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365265 PE), fluorescein (sc-365265 FITC), Alexa Fluor[®] 488 (sc-365265 AF488), Alexa Fluor[®] 546 (sc-365265 AF546), Alexa Fluor[®] 594 (sc-365265 AF594) or Alexa Fluor[®] 647 (sc-365265 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365265 AF680) or Alexa Fluor[®] 790 (sc-365265 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IK1 (D-5) is recommended for detection of IK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 IK1 siRNA (h): sc-72200, IK1 siRNA (m): sc-72201, IK1 shRNA Plasmid (h): sc-72200-SH, IK1 shRNA Plasmid (m): sc-72201-SH, IK1 shRNA (h) Lentiviral Particles: sc-72200-V and IK1 shRNA (m) Lentiviral Particles: sc-72201-V.

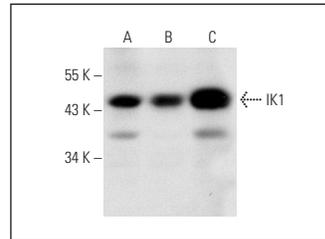
Molecular Weight of IK1: 45 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, HeLa whole cell lysate: sc-2200 or HCT-116 whole cell lysate: sc-364175.

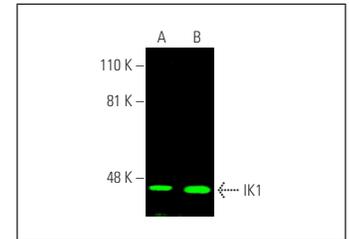
STORAGE

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

DATA



IK1 (D-5): sc-365265. Western blot analysis of IK1 expression in HCT-116 (A), HeLa (B) and DU 145 (C) whole cell lysates.



IK1 (D-5): sc-365265. Western blot analysis of IK1 expression in HCT-116 (A) and DU 145 (B) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Kim, J.B., et al. 2014. The large-conductance calcium-activated potassium channel holds the key to the conundrum of familial hypokalemic periodic paralysis. *Korean J. Pediatr.* 57: 445-450.
2. Turner, R.W., et al. 2015. Neuronal expression of the intermediate conductance calcium-activated potassium channel KCa3.1 in the mammalian central nervous system. *Pflugers Arch.* 67: 311-328.
3. Lu, R., et al. 2017. KCa3.1 channels modulate the processing of noxious chemical stimuli in mice. *Neuropharmacology* 125: 386-395.
4. Khaddaj-Mallat, R., et al. 2018. SKA-31, an activator of endothelial Ca^{2+} -activated K^+ channels evokes robust vasodilation in rat mesenteric arteries. *Eur. J. Pharmacol.* 831: 60-67.
5. Jin, L.W., et al. 2019. Repurposing the KCa3.1 inhibitor senicapoc for Alzheimer's disease. *Ann. Clin. Transl. Neurol.* 6: 723-738.
6. Buljubasic, F., et al. 2020. Nucleoside diphosphate kinase B contributes to arrhythmogenesis in human-induced pluripotent stem cell-derived cardiomyocytes from a patient with arrhythmogenic right ventricular cardiomyopathy. *J. Clin. Med.* 9: 486.
7. Ottolini, M., et al. 2020. Mechanisms underlying selective coupling of endothelial Ca^{2+} signals with eNOS versus IK/SK channels in systemic and pulmonary arteries. *J. Physiol.* 598: 3577-3596.
8. Roshchin, M.V., et al. 2020. Ca^{2+} -activated KCa3.1 potassium channels contribute to the slow afterhyperpolarization in L5 neocortical pyramidal neurons. *Sci. Rep.* 10: 14484.
9. Sahu, G. and Turner, R.W. 2021. The molecular basis for the calcium-dependent slow afterhyperpolarization in CA1 hippocampal pyramidal neurons. *Front. Physiol.* 12: 759707.

RESEARCH USE

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