

KV β .2 (h): 293T Lysate: sc-111792

BACKGROUND

Voltage-gated K⁺ channels in the plasma membrane control the repolarization and the frequency of action potentials in neurons, muscles and other excitable cells. The KV gene family encodes more than 30 genes that comprise the subunits of the K⁺ channels, and they vary in their gating and permeation properties, subcellular distribution, and expression patterns. Functional KV channels assemble as tetramers consisting of pore-forming α -subunits (KV), which include the KV1, KV2, KV3 and KV4 proteins, and accessory or KV-subunits that modify the gating properties of the coexpressed KV subunits. Differences exist in the patterns of trafficking, biosynthetic processing and surface expression of the major KV1 subunits (KV1.1, KV1.2, and KV1.4) expressed in rat and human brain, suggesting that the individual protein subunits are highly regulated to control for the assembly and formation of functional neuronal channels. KV β .2 can also be designated KCNAB2, KKv β 2.1 or AKR6A5.

REFERENCES

- Deal, K.K., et al. 1994. The brain KV1.1 potassium channel: *in vitro* and *in vivo* studies on subunit assembly and posttranslational processing. *J. Neurosci.* 14: 1666-1676.
- Veh, R.W., et al. 1995. Immunohistochemical localization of five members of the KV1 channel subunits: contrasting subcellular locations and neuron-specific co-localizations in rat brain. *Eur. J. Neurosci.* 7: 2189-2205.
- Shi, G., et al. 1996. β subunits promote K⁺ channel surface expression through effects early in biosynthesis. *Neuron* 16: 843-852.
- Rhodes, K.J., et al. 1997. Association and colocalization of the KV β 1 and KV β 2 β -subunits with KV1 α -subunits in mammalian brain K⁺ channel complexes. *J. Neurosci.* 17: 8246-8258.
- Coleman, S.K., et al. 1999. Subunit composition of KV1 channels in human CNS. *J. Neurochem.* 73: 849-858.
- Manganas, L.N., et al. 2000. Subunit composition determines KV1 potassium channel surface expression. *J. Biol. Chem.* 275: 29685-29693.

CHROMOSOMAL LOCATION

Genetic locus: KCNAB2 (human) mapping to 1p36.31.

PRODUCT

KV β .2 (h): 293T Lysate represents a lysate of human KV β .2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

KV β .2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive KV β .2 antibodies. Recommended use: 10-20 μ l per lane.

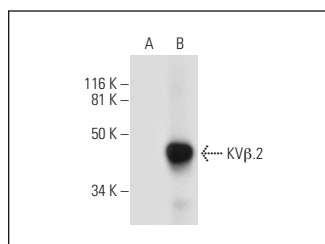
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

KV β (F-7): sc-377099 is recommended as a positive control antibody for Western Blot analysis of enhanced human KV β .2 expression in KV β .2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



KV β (F-7): sc-377099. Western blot analysis of KV β .2 expression in non-transfected: sc-117752 (A) and human KV β .2 transfected: sc-111792 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.