SANTA CRUZ BIOTECHNOLOGY, INC.

CRIM1 (CREX-2): sc-73860

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The Power to Question

BACKGROUND

CRIM1 (cysteine-rich motor neuron 1) is a glycosylated type I transmembrane protein expressed in pericytes surrounding the arterial vasculature, podocytes, parietal cells, and mesangial cells of the glomerulus and in the developing spinal cord. It consists of six chordin-like cysteine-rich repeats (CRRs) and an N-terminal Insulin-like growth factor binding protein-like motif. The CRRs are contained in the extracellular domain which can be cleaved and released as a secreted ectodomain from the cell membrane. CRIM1 may be involved in the regulation of BMP signaling activity in kidney as well as various other tissues. CRIM1 interacts with BMP4 and BMP7 via the CRRs and functions as an antagonist. This interaction leads to the tethering of pre-BMP to the cell surface and reduced production, processing and secretion of mature BMP. In addition, CRIM1 may also play a role in capillary formation and maintenance during angiogenesis.

REFERENCES

1. Kolle, G., et al. 2000. CRIM1, a novel gene encoding a cysteine-rich repeat protein, is developmentally regulated and implicated in vertebrate CNS development and organogenesis. Mech. Dev. 90: 181-193.
2. Georgas, K., et al. 2000. Characterisation of CRIM1 expression in the developing mouse urogenital tract reveals a sexually dimorphic gonadal expression pattern. Dev. Dyn. 219: 582-587.
3. Kolle, G., et al. 2002. *In ovo* electroporation of CRIM1 in the developing chick spinal cord. Dev. Dyn. 226: 107-111.
4. Glienke, J., et al. 2002. CRIM1 is involved in endothelial cell capillary formation *in vitro* and is expressed in blood vessels *in vivo*. Mech. Dev. 119: 165-175.
5. Wilkinson, L., et al. 2003. CRIM1 regulates the rate of processing and delivery of bone morphogenetic proteins to the cell surface. J. Biol. Chem. 278: 34181-34188.
6. Liu, F., et al. 2006. Oncogenic mutations cause dramatic, qualitative changes in the transcriptional activity of c-Myb. Oncogene 25: 795-805.
7. Sun, J., et al. 2006. BMP4 activation and secretion are negatively regulated by an intracellular gremlin-BMP4 interaction. J. Biol. Chem. 281: 29349-29356.
8. Wilkinson, L., et al. 2007. Crim1KST264/KST264 mice implicate Crim1 in the regulation of vascular endothelial growth factor-A activity during glomerular vascular development. J. Am. Soc. Nephrol. 18: 1697-1708.

CHROMOSOMAL LOCATION

Genetic locus: CRIM1 (human) mapping to 2p22.3.

SOURCE

CRIM1 (CREX-2) is a mouse monoclonal antibody raised against the extracellular domain of CRIM1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

CRIM1 (CREX-2) is recommended for detection of CRIM1, also designated cysteine-rich motor neuron 1, of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for CRIM1 siRNA (h): sc-94828, CRIM1 shRNA Plasmid (h): sc-94828-SH and CRIM1 shRNA (h) Lentiviral Particles: sc-94828-V.

Molecular Weight of CRIM1: 140 kDa.

SELECT PRODUCT CITATIONS

1. Nyström, J., et al. 2009. CRIM1 is localized to the podocyte filtration slit diaphragm of the adult human kidney. Nephrol. Dial. Transplant. 24: 2038-2044.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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