SANTA CRUZ BIOTECHNOLOGY, INC.

IMP-1 (C-15): sc-82196

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IGF-II mRNA-binding proteins (IMP) bind RNA and influence RNA synthesis and metabolism. IMPs, IMP-1 (coding region determinant-binding protein/ Insulin-like growth factor II mRNA-binding protein, CRD-BP, VICKZ1), IMP-2 (IMP2, VICKZ2, p62) and IMP-3 (KOC1, VICKZ3), contain a unique combination of RNA recognition motifs and four hnRNP K homology domains. IMP-1 is abundant in embryonal tissues and in 81% of colon cancers, 58.5% of breast cancers and 73% of sarcomas. IMP-1 recognizes c-Myc, IGF-II and Tau mRNAs, and H19 RNA and plays a major role in proliferation of K-562 cells by an IGF-II-dependent mechanism. IMP-2 binds the 5' UTR of IGF-II mRNA and influences tumor cell growth, in which IMP-2 is associated with apoptosis induced by tretinoin. IMP-3 knock down by RNA interference decreases levels of IGF-II protein without affecting IGF-II, c-Myc, or β-Actin mRNA and H19 RNA levels. IMP-3 is a marker for carcinomas and high-grade dysplastic lesions of pancreatic ductal epithelium.

REFERENCES

1. Leeds, P., et al. 1997. Developmental regulation of CRD-BP, an RNA-binding protein that stabilizes c-Myc mRNA *in vitro*. Oncogene 14: 1279-1286.
2. Ioannidis, P., et al. 2001. C-Myc and IGF-II mRNA-binding protein (CRD-BP/ IMP-1) in benign and malignant mesenchymal tumors. Int. J. Cancer 94: 480-484.
3. Ioannidis, P., et al. 2003. 8q24 Copy number gains and expression of the c-Myc mRNA stabilizing protein CRD-BP in primary breast carcinomas. Int. J. Cancer 104: 54-59.
4. Liao, B., et al. 2004. Targeted knockdown of the RNA-binding protein CRD-BP promotes cell proliferation via an Insulin-like growth factor II-dependent pathway in human K-562 leukemia cells. J. Biol. Chem. 279: 48716-48724.
5. Ping, S., et al. 2005. Effect of all-*trans*-retinoic acid on mRNA binding protein p62 in human gastric cancer cells. Int. J. Biochem. Cell Biol. 37: 616-627.
6. Liao, B., et al. 2005. The RNA-binding protein IMP-3 is a translational activator of Insulin-like growth factor II leader-3 mRNA during proliferation of human K-562 leukemia cells. J. Biol. Chem. 280: 18517-18524.
7. Ioannidis, P., et al. 2005. CRD-BP/IMP-1 expression characterizes cord blood $CD34^+$ stem cells and affects c-Myc and IGF-II expression in MCF7 cancer cells. J. Biol. Chem. 280: 20086-20093.

CHROMOSOMAL LOCATION

Genetic locus: IGF2BP1 (human) mapping to 17q21.32; Igf2bp1 (mouse) mapping to 11 D.

SOURCE

IMP-1 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IMP-1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82196 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IMP-1 (C-15) is recommended for detection of IMP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with family member IMP-3 .

IMP-1 (C-15) is also recommended for detection of IMP-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for IMP-1 siRNA (h): sc-40694, IMP-1 siRNA (m): sc-40695, IMP-1 shRNA Plasmid (h): sc-40694-SH, IMP-1 shRNA Plasmid (m): sc-40695-SH, IMP-1 shRNA (h) Lentiviral Particles: sc-40694-V and IMP-1 shRNA (m) Lentiviral Particles: sc-40695-V.

Molecular Weight of IMP-1: 63 kDa.

Positive Controls: mouse embryo extract: sc-364239, P19 cell lysate: sc-24760 or NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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