SANTA CRUZ BIOTECHNOLOGY, INC.

IMP-1 (E-20): sc-21026

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. 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.
5. 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 K562 leukemia cells. J. Biol. Chem. 280: 18517-18524.

CHROMOSOMAL LOCATION

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

SOURCE

IMP-1 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IMP-1 of human origin.

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-21026 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

IMP-1 (E-20) 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), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

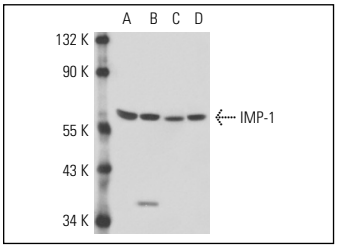
IMP-1 (E-20) is also recommended for detection of IMP-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for IMP-1 siRNA (h): sc-40694, IMP-1 siRNA (m): sc-40695, IMP-1 siRNA (r): sc-270306, IMP-1 shRNA Plasmid (h): sc-40694-SH, IMP-1 shRNA Plasmid (m): sc-40695-SH, IMP-1 shRNA Plasmid (r): sc-270306-SH, IMP-1 shRNA (h) Lentiviral Particles: sc-40694-V, IMP-1 shRNA (m) Lentiviral Particles: sc-40695-V and IMP-1 shRNA (r) Lentiviral Particles: sc-270306-V.

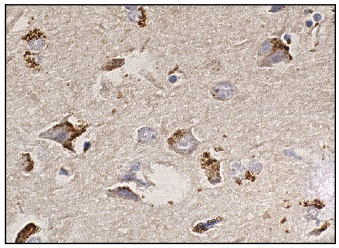
Molecular Weight of IMP-1: 63 kDa.

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

DATA



IMP-1 (E-20): sc-21026. Western blot analysis of IMP-1 expression in P19 (**A**), VA-ES-BJ (**B**) and NIH/3T3 (**C**) whole cell lysates and mouse embryo tissue extract (**D**).



IMP-1 (E-20): sc-21026. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic stress granules in neuronal cells.

SELECT PRODUCT CITATIONS

1. Orrù, S., et al. 2007. Analysis of the ribosomal protein S19 interactome. Mol. Cell. Proteomics 6: 382-393.
2. Rivera Vargas, T., et al. 2014. Post-transcriptional regulation of cyclins D1, D3 and G_1 and proliferation of human cancer cells depend on IMP-3 nuclear localization. Oncogene 33: 2865-2875.

RESEARCH USE

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