

IMP-1/2/3 (H-300): sc-33594

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/IMP1 expression characterizes cord blood CD34⁺ stem cells and affects c-Myc and IGF-II expression in MCF-7 cancer cells. *J. Biol. Chem.* 280: 20086-20093.

SOURCE

IMP-1/2/3 (H-300) is a rabbit polyclonal antibody raised against amino acids 278-577 mapping at the C-terminus of IMP-1 of human origin.

PRODUCT

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

RESEARCH USE

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

APPLICATIONS

IMP-1/2/3 (H-300) is recommended for detection of IMP-1, -2 and -3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

IMP-1/2/3 (H-300) is also recommended for detection of IMP-1, -2 and -3 in additional species, including equine, canine, bovine, porcine and avian.

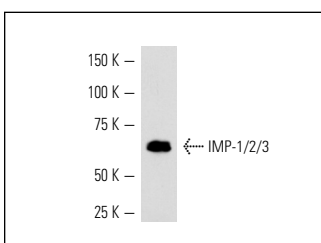
Molecular Weight of IMP-1/2/3: 63 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or P19 cell lysate: sc-24760.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IMP-1/2/3 (H-300): sc-33594. Western blot analysis of IMP-1/2/3 expression in K-562 whole cell lysate.

STORAGE

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

MONOS
Satisfaction
Guaranteed

Try **IMP-1/2/3 (A-2): sc-271785** or **IMP-1 (D-9): sc-166344**, our highly recommended monoclonal alternatives to IMP-1/2/3 (H-300).