

Imp4 (N-15): sc-243073

BACKGROUND

Imp4, also known as U3 small nucleolar ribonucleoprotein protein Imp4 or BXDC4, is a 291 amino acid protein that contains one Brix domain. Localized in the nucleus, Imp4 exists as a component of a heterotrimeric complex containing Imp3, Imp4 and MPP10. Imp4 also exists as a component of the 60-80S U3 small nucleolar ribonucleoprotein and plays a key role in early cleavages during pre-18S ribosomal RNA processing. The gene encoding Imp4 maps to human chromosome 2 which, as the second largest human chromosome, makes up approximately 8% of the human genome and contains 237 million bases encoding over 1,400 genes. A number of genetic diseases are linked to genes on chromosome 2 including Harlequin ichthyosis, Alström syndrome and the lipid metabolic disorder sitosterolemia.

REFERENCES

- Hughes, J.M. and Ares, M. 1991. Depletion of U3 small nucleolar RNA inhibits cleavage in the 5' external transcribed spacer of yeast pre-ribosomal RNA and impairs formation of 18S ribosomal RNA. *EMBO J.* 10: 4231-4239.
- Beltrame, M. and Tollervey, D. 1995. Base pairing between U3 and the pre-ribosomal RNA is required for 18S rRNA synthesis. *EMBO J.* 14: 4350-4356.
- Lee, S.J. and Baserga, S.J. 1997. Functional separation of pre-rRNA processing steps revealed by truncation of the U3 small nucleolar ribonucleoprotein component, Mpp10. *Proc. Natl. Acad. Sci. USA* 94: 13536-13541.
- Lee, S.J. and Baserga, S.J. 1999. Imp3p and Imp4p, two specific components of the U3 small nucleolar ribonucleoprotein that are essential for pre-18S rRNA processing. *Mol. Cell. Biol.* 19: 5441-5452.
- Granneman, S., et al. 2003. The human Imp3 and Imp4 proteins form a ternary complex with hMpp10, which only interacts with the U3 snoRNA in 60-80S ribonucleoprotein complexes. *Nucleic Acids Res.* 31: 1877-1887.

CHROMOSOMAL LOCATION

Genetic locus: IMP4 (human) mapping to 2q21.1; Imp4 (mouse) mapping to 1 B.

SOURCE

Imp4 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Imp4 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-243073 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

Imp4 (N-15) is recommended for detection of Imp4 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Imp4 (N-15) is also recommended for detection of Imp4 in additional species, including canine and bovine.

Suitable for use as control antibody for Imp4 siRNA (h): sc-94624, Imp4 siRNA (m): sc-146227, Imp4 shRNA Plasmid (h): sc-94624-SH, Imp4 shRNA Plasmid (m): sc-146227-SH, Imp4 shRNA (h) Lentiviral Particles: sc-94624-V and Imp4 shRNA (m) Lentiviral Particles: sc-146227-V.

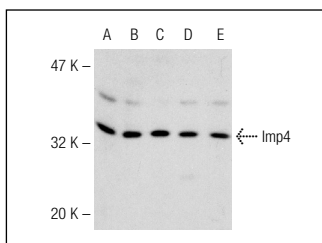
Molecular Weight of Imp4: 34 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or Jurkat nuclear extract: sc-2132.

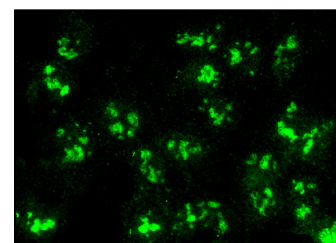
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Imp4 (N-15): sc-243073. Western blot analysis of Imp4 expression in HeLa (A), Hep G2 (B), HEL 92.1.7 (C), K-562 (D) and Jurkat (E) nuclear extracts.



Imp4 (N-15): sc-243073. Immunofluorescence staining of formalin-fixed HepG2 cells showing nucleolar localization.

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.