

ESX1 (B-9): sc-365740

BACKGROUND

ESX1 was originally identified as a regulator of mouse embryogenesis. In mice, it is primarily expressed in placenta and testis where it functions in placenta/fetus development and spermatogenesis, respectively. In human cell lines, ESX1 has been elucidated as a paired-like homeoprotein that is proteolytically processed into N-terminal and C-terminal fragments. The N-terminal ESX1 fragment, which contains the homeodomain, localizes to the nucleus and represses mRNA transcription from the K-ras gene. A gain-of-function mutation of the K-ras gene is one of the most common genetic changes in human tumors. Therefore, ESX1 is implicated as a therapeutic target in the treatment of human cancers that have oncogenic K-ras mutations.

REFERENCES

1. Li, Y., et al. 1997. ESX1, a novel X chromosome-linked homeobox gene expressed in mouse extraembryonic tissues and male germ cells. *Dev. Biol.* 188: 85-95.
2. Li, Y., et al. 1998. ESX1 is an X-chromosome-imprinted regulator of placental development and fetal growth. *Nat. Genet.* 20: 309-311.
3. Yan, Y.T., et al. 2000. A novel PF/PN motif inhibits nuclear localization and DNA binding activity of the ESX1 homeoprotein. *Mol. Cell. Biol.* 20: 661-671.
4. Yanagihara, M., et al. 2005. Paired-like homeoprotein ESXR1 acts as a sequence-specific transcriptional repressor of the human K-ras gene. *Oncogene* 24: 5878-5887.

CHROMOSOMAL LOCATION

Genetic locus: ESX1 (human) mapping to Xq22.2; Esx1 (mouse) mapping to X F1.

SOURCE

ESX1 (B-9) is a mouse monoclonal antibody raised against amino acids 1-184 mapping at the N-terminus of ESX1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ESX1 (B-9) is available conjugated to agarose (sc-365740 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365740 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365740 PE), fluorescein (sc-365740 FITC), Alexa Fluor® 488 (sc-365740 AF488), Alexa Fluor® 546 (sc-365740 AF546), Alexa Fluor® 594 (sc-365740 AF594) or Alexa Fluor® 647 (sc-365740 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365740 AF680) or Alexa Fluor® 790 (sc-365740 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

ESX1 (B-9) is recommended for detection of ESX1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ESX1 siRNA (h): sc-77289, ESX1 siRNA (m): sc-77290, ESX1 shRNA Plasmid (h): sc-77289-SH, ESX1 shRNA Plasmid (m): sc-77290-SH, ESX1 shRNA (h) Lentiviral Particles: sc-77289-V and ESX1 shRNA (m) Lentiviral Particles: sc-77290-V.

Molecular Weight of full length ESX1: 65 kDa.

Molecular Weight of ESX1 N-terminal fragment: 45 kDa.

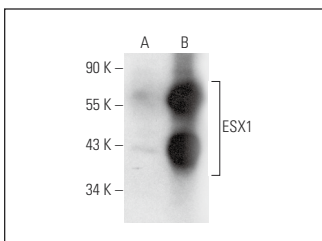
Molecular Weight of ESX1 C-terminal fragment: 20 kDa.

Positive Controls: ESX1 (h2): 293T Lysate: sc-116502 or Hep G2 cell lysate: sc-2227.

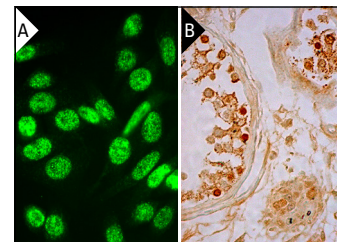
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ESX1 (B-9): sc-365740. Western blot analysis of ESX1 expression in non-transfected: sc-117752 (A) and human ESX1 transfected: sc-116502 (B) 293T whole cell lysates.



ESX1 (B-9): sc-365740. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells (B).

RESEARCH USE

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