Exportin T (D-11): sc-514591

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

Exportin T, a nuclear export receptor for tRNA, selectively exports mature tRNA with correctly processed 5' and 3' ends. The TpsiC loop present in mature tRNA is also critical for the selection process. Exportin T binds tRNA in a RanGTP-dependent manner to form a nuclear export complex. Exportin T shuttles bidirectionally through nuclear pore complexes. The steady-state distribution of Exportin T is dependent on its RanGTP interaction. The RanGTP-dependent interaction between Exportin T and various nucleoporins increase the efficiency of Exportin T by holding empty and tRNA-bound Exportin T near nuclear pore complexes. The gene encoding human Exportin T maps to chromosome 12.

REFERENCES

1. Arts, G.J., et al. 1998. Identification of a nuclear export receptor for tRNA. Curr. Biol. 8: 305-314.

2. Kutay, U., et al. 1998. Identification of a tRNA-specific nuclear export receptor. Mol. Cell 1: 359-369.

3. Arts, G.J., et al. 1998. The role of exportin-t in selective nuclear export of mature tRNAs. EMBO J. 17: 7430-7441.

4. Lipowsky, G., et al. 1999. Coordination of tRNA nuclear export with processing of tRNA. RNA 5: 539-549.

5. Kuersten, S., et al. 2002. Steady-state nuclear localization of exportin-t involves RanGTP binding and two distinct nuclear pore complex interaction domains. Mol. Cell. Biol. 22: 5708-5720.

CHROMOSOMAL LOCATION

Genetic locus: XPOT (human) mapping to 12q14.2; Xpot (mouse) mapping to 10 D2.

SOURCE

Exportin T (D-11) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Exportin T of human origin.

PRODUCT

Each vial contains 200 µg IgG$_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Exportin T (D-11) is available conjugated to agarose (sc-514591 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514591 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514591 PE), fluorescein (sc-514591 FITC), Alexa Fluor® 488 (sc-514591 AF488), Alexa Fluor® 546 (sc-514591 AF546), Alexa Fluor® 594 (sc-514591 AF594) or Alexa Fluor® 647 (sc-514591 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514591 AF680) or Alexa Fluor® 790 (sc-514591 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

Exportin T (D-11) is recommended for detection of Exportin T 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Exportin T siRNA (h): sc-41275, Exportin T siRNA (m): sc-41276, Exportin T shRNA Plasmid (h): sc-41275-SH, Exportin T shRNA Plasmid (m): sc-41276-SH, Exportin T shRNA (h) Lentiviral Particles: sc-41275-V and Exportin T shRNA (m) Lentiviral Particles: sc-41276-V.

Molecular Weight of Exportin T: 110 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or HEK293T whole cell lysate: sc-45137.

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) Immunopre-cipitation: 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.

DATA
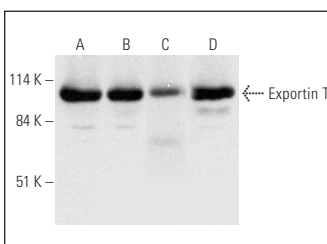
Exportin T (D-11): sc-514591. Western blot analysis of Exportin T expression in NCI-H1299 (**A**), HeLa (**B**), HEK293T (**C**) and K-562 (**D**) whole cell lysates.
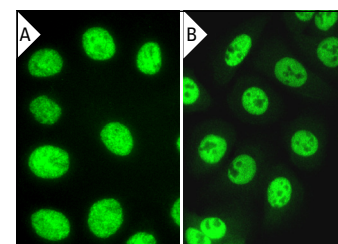
Exportin T (D-11): sc-514591. Immunofluorescence staining of formalin-fixed HeLa (**A**) and SW480 (**B**) cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Dai, H., et al. 2023. XPOT disruption suppresses TNBC growth through inhibition of specific tRNA nuclear exportation and TTC19 expression to induce cytokinesis failure. Int. J. Biol. Sci. 19: 5319-5336.

2. Park, D., et al. 2023. Suboptimal mitochondrial activity facilitates nuclear heat shock responses for proteostasis and genome stability. Mol. Cells 46: 374-386.

RESEARCH USE

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