SANTA CRUZ BIOTECHNOLOGY, INC.

StARD4 (F-7): sc-390520

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The Power to Question

BACKGROUND

The StARD (steroidogenic acute regulatory protein-related lipid transfer (START) domain containing) family of proteins is comprised of 15 different members. All members contain the characteristic START domain and are believed to play key roles in the metabolism and transport of lipids. The StARD proteins are grouped into six subfamilies based on their START domain sequences. StARD4, StARD5 and StARD6 constitute one subfamily, sharing approximately 30% amino acid identity with each other. StARD6 is specifically expressed in the testis, while StARD4 and StARD5 are widely expressed with predominant expression in kidney and liver. These proteins are believed to function in the intracellular cytosolic transport of sterols and/or the biosynthesis of cholesterol. The expression of StARD4 can be regulated by sterols, whereas the expression of StARD5 is not sterol-regulated but can be induced by endomplasmic reticulum (ER) stress. Due to its exclusive tissue expression and its interaction with sterols, StARD6 may function in reproduction and germ cell maturation.

REFERENCES

1. Soccio, R.E., et al. 2002. The cholesterol-regulated StARD4 gene encodes a StAR-related lipid transfer protein with two closely related homologues, StARD5 and StARD6. Proc. Natl. Acad. Sci. USA 99: 6943-6948.
2. Alpy, F. and Tomasetto, C. 2005. Give lipids a START: the StAR-related lipid transfer (START) domain in mammals. J. Cell Sci. 118: 2791-2801.
3. Rodriguez-Agudo, D., et al. 2005. Human StARD5, a cytosolic StAR-related lipid binding protein. J. Lipid Res. 46: 1615-1623.

CHROMOSOMAL LOCATION

Genetic locus: STARD4 (human) mapping to 5q22.1; Stard4 (mouse) mapping to 18 B1.

SOURCE

StARD4 (F-7) is a mouse monoclonal antibody raised against amino acids 1-148 mapping at the N-terminus of StARD4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

StARD4 (F-7) is available conjugated to agarose (sc-390520 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390520 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390520 PE), fluorescein (sc-390520 FITC), Alexa Fluor® 488 (sc-390520 AF488), Alexa Fluor® 546 (sc-390520 AF546), Alexa Fluor® 594 (sc-390520 AF594) or Alexa Fluor® 647 (sc-390520 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390520 AF680) or Alexa Fluor® 790 (sc-390520 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

StARD4 (F-7) is recommended for detection of StARD4 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 StARD4 siRNA (h): sc-63072, StARD4 siRNA (m): sc-63073, StARD4 shRNA Plasmid (h): sc-63072-SH, StARD4 shRNA Plasmid (m): sc-63073-SH, StARD4 shRNA (h) Lentiviral Particles: sc-63072-V and StARD4 shRNA (m) Lentiviral Particles: sc-63073-V.

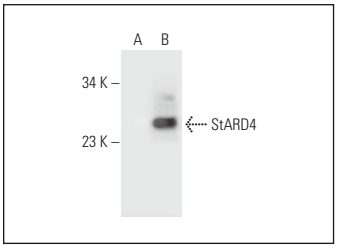
Molecular Weight of StARD4: 24 kDa.

Positive Controls: StARD4 (m): 293T Lysate: sc-123814.

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.

DATA



StARD4 (F-7): sc-390520. Western blot analysis of StARD4 expression in non-transfected: sc-117752 (**A**) and mouse StARD4 transfected: sc-123814 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kim, J.Y., et al. 2018. ER stress drives lipogenesis and steatohepatitis via caspase-2 activation of S1P. Cell 175: 133-145.
2. Chen, S., et al. 2020. SREBP2-STARD4 is involved in synthesis of cholesteryl ester stimulated by mono-butyl phthalate in MLTC-1 cells. Environ. Toxicol. 35: 377-384.

RESEARCH USE

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