

StARD4 (C-19): sc-66659

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 endoplasmic 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., et al. 2005. Give lipids a START: the StAR-related lipid transfer (START) domain in mammals. *J. Cell Sci.* 118: 2791-2801.
3. Soccio, R.E., et al. 2005. Differential gene regulation of StARD4 and StARD5 cholesterol transfer proteins. Activation of StARD4 by sterol regulatory element-binding protein-2 and StARD5 by endoplasmic reticulum stress. *J. Biol. Chem.* 280: 19410-19418.
4. Rodriguez-Agudo, D., et al. 2005. Human StARD5, a cytosolic StAR-related lipid binding protein. *J. Lipid Res.* 46: 1615-1623.
5. Ishikawa, T., et al. 2005. Sertoli cell expression of steroidogenic acute regulatory protein-related lipid transfer 1 and 5 domain-containing proteins and sterol regulatory element binding protein-1 are interleukin-1 β regulated by activation of c-Jun N-terminal kinase and cyclooxygenase-2 and cytokine induction. *Endocrinology* 146: 5100-5111.
6. Yamada, S., et al. 2006. Regulation of human StARD4 gene expression under endoplasmic reticulum stress. *Biochem. Biophys. Res. Commun.* 343: 1079-1085.
7. Rodriguez-Agudo, D., et al. 2006. Localization of StARD5 cholesterol binding protein. *J. Lipid Res.* 47: 1168-1175.
8. Chang, I.Y., et al. 2007. Immunohistochemical detection of StARD6 in the rat nervous system. *Neuroreport* 18: 1615-1619.

CHROMOSOMAL LOCATION

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

SOURCE

StARD4 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of StARD4 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.

Blocking peptide available for competition studies, sc-66659 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

StARD4 (C-19) is recommended for detection of StARD4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

StARD4 (C-19) is also recommended for detection of StARD4 in additional species, including equine, porcine and avian.

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.

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) 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.

STORAGE

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

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.