SANTA CRUZ BIOTECHNOLOGY, INC.

T-FABP (B-4): sc-390196

BACKGROUND

Fatty acid-binding proteins, designated FABPs, are a family of homologous cytoplasmic proteins that are expressed in a highly tissue-specific manner and play an integral role in the balance between lipid and carbohydrate metabolism. FABPs mediate fatty acid (FA) and/or hydrophobic ligand uptake, transport and targeting within their respective tissues. The mechanisms underlying these actions can give rise to both passive diffusional uptake and protein-mediated transmembrane transport of FAs. FABPs are expressed in adipocytes (A-FABP), brain (B-FABP), epidermis (E-FABP, also designated psoriasis-associated FABP or PA-FABP), muscle and heart (H-FABP, also designated mammary-derived growth inhibitor or MDGI), intestine (I-FABP), liver (L-FABP), myelin (M-FABP) and testis (T-FABP). T-FABP, also known as PERF, FABP9 or PERF15, is expressed in testicular germ cells during spermatogenesis and may be involved in germ cell development.

REFERENCES

1. Veerkamp, J.H. and Maatman, R.G. 1995. Cytoplasmic fatty acid-binding proteins: their structure and genes. Prog. Lipid Res. 34: 17-52.
2. Pouresmaeili, F., et al. 1997. Molecular cloning and structural analysis of the gene encoding PERF 15 protein present in the perinuclear theca of the rat spermatozoa. Biol. Reprod. 57: 655-659.
3. Korley, R., et al. 1997. Analysis of the protein composition of the mouse sperm perinuclear theca and characterization of its major protein constituent. Biol. Reprod. 57: 1426-1432.
4. Kido, T. and Namiki, H. 2000. Expression of testicular fatty acid-binding protein PERF 15 during germ cell apoptosis. Dev. Growth Differ. 42: 359-366.
5. Storch, J. and Thumser, A.E. 2000. The fatty acid transport function of fatty acid-binding proteins. Biochim. Biophys. Acta 1486: 28-44.
6. Glatz, J.F. and Storch, J. 2001. Unravelling the significance of cellular fatty acid-binding proteins. Curr. Opin. Lipidol. 12: 267-274.
7. Kido, T., et al. 2005. The testicular fatty acid binding protein PERF15 regulates the fate of germ cells in PERF15 transgenic mice. Dev. Growth Differ. 47: 15-24.

CHROMOSOMAL LOCATION

Genetic locus: Fabp9 (mouse) mapping to 3 A1.

SOURCE

T-FABP (B-4) is a mouse monoclonal antibody raised against a peptide mapping near the N-terminus of T-FABP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390196 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

T-FABP (B-4) is recommended for detection of T-FABP 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 T-FABP siRNA (m): sc-106979, T-FABP shRNA Plasmid (m): sc-106979-SH and T-FABP shRNA (m) Lentiviral Particles: sc-106979-V.

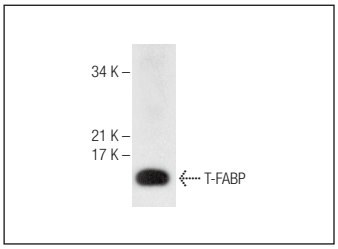
Molecular Weight of T-FABP: 15 kDa.

Positive Controls: rat testis extract: sc-2400.

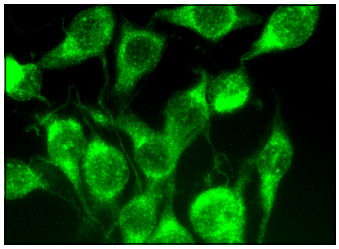
RECOMMENDED SUPPORT REAGENTS

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



T-FABP (B-4): sc-390196. Western blot analysis of T-FABP expression in rat testis tissue extract.



T-FABP (B-4): sc-390196. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

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 for detailed protocols and support products.