

A-FABP (B-4): sc-271529

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). The human A-FABP gene is organized into 4 exons, maps to chromosome 8q21.13, and encodes a 132 amino acid protein. A-FABP protein comprises approximately 1% of the total cytosolic protein in human adipose tissue.

REFERENCES

1. Baxa, C.A., et al. 1989. Human adipocyte lipid-binding protein: purification of the protein and cloning of its complementary DNA. *Biochemistry* 28: 8683-8690.
2. Veerkamp, J.H., et al. 1995. Cytoplasmic fatty acid-binding proteins: their structure and genes. *Prog. Lipid Res.* 34: 17-52.

CHROMOSOMAL LOCATION

Genetic locus: FABP4 (human) mapping to 8q21.13; Fabp4 (mouse) mapping to 3 A1.

SOURCE

A-FABP (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 106-132 at the C-terminus of A-FABP 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.

A-FABP (B-4) is available conjugated to agarose (sc-271529 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271529 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271529 PE), fluorescein (sc-271529 FITC), Alexa Fluor® 488 (sc-271529 AF488), Alexa Fluor® 546 (sc-271529 AF546), Alexa Fluor® 594 (sc-271529 AF594) or Alexa Fluor® 647 (sc-271529 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271529 AF680) or Alexa Fluor® 790 (sc-271529 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271529 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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

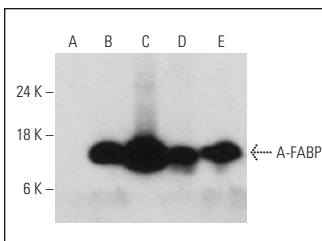
A-FABP (B-4) is recommended for detection of A-FABP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 A-FABP siRNA (h): sc-43592, A-FABP siRNA (m): sc-140595, A-FABP shRNA Plasmid (h): sc-43592-SH, A-FABP shRNA Plasmid (m): sc-140595-SH, A-FABP shRNA (h) Lentiviral Particles: sc-43592-V and A-FABP shRNA (m) Lentiviral Particles: sc-140595-V.

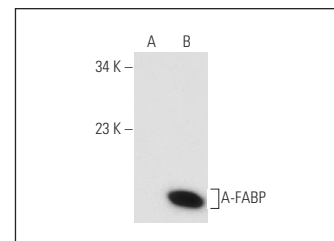
Molecular Weight of A-FABP: 15 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, rat heart extract: sc-2393 or A-FABP (m2): 293T Lysate: sc-118110.

DATA



A-FABP (B-4) HRP: sc-271529 HRP. Direct western blot analysis of A-FABP expression in non-transfected 293T: sc-117752 (A), mouse A-FABP transfected 293T: sc-118110 (B) and RT-4 (C) whole cell lysates and rat heart (D) and mouse heart (E) tissue extracts.



A-FABP (B-4): sc-271529. Western blot analysis of A-FABP expression in non-transfected: sc-117752 (A) and mouse A-FABP transfected: sc-118110 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Coín Aragüez, L., et al. 2013. Thymus fat as an attractive source of angiogenic factors in elderly subjects with myocardial ischemia. *Age* 35: 1263-1275.
2. Zang, K., et al. 2013. Brd2 inhibits adipogenesis via the ERK1/2 signaling pathway in 3T3-L1 adipocytes. *PLoS ONE* 8: e78536.
3. Dogan, A., et al. 2017. Cytoglobin: a potential marker for adipogenic differentiation in preadipocytes *in vitro*. *Cytotechnology* 69: 157-165.
4. Dogan, A., et al. 2017. A new hope for obesity management: boron inhibits adipogenesis in progenitor cells through the Wnt/β-catenin pathway. *Metabolism* 69: 130-142.
5. Lee, J.E., et al. 2017. Effects of *Cimicifugae rhizoma* on the osteogenic and adipogenic differentiation of stem cells. *Exp. Ther. Med.* 13: 443-448.
6. Xiong, Y., et al. 2018. A novel brown adipocyte-enriched long non-coding RNA that is required for brown adipocyte differentiation and sufficient to drive thermogenic gene program in white adipocytes. *Biochim. Biophys. Acta* 1863: 409-419.

RESEARCH USE

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