

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



The Power to Question

## 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, 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 IgG<sub>1</sub> 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

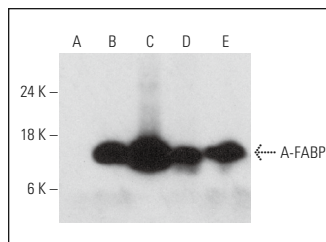
A-FABP (B-4) is recommended for detection of A-FABP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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.

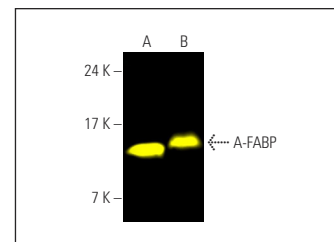
Molecular Weight of A-FABP: 15 kDa.

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) Alexa Fluor® 488: sc-271529 AF488. Direct fluorescent western blot analysis of A-FABP expression in RT-4 whole cell lysate (A) and human adipose tissue extract (B). Blocked with UltraCruz® Blocking Reagent: sc-516214.

## SELECT PRODUCT CITATIONS

1. Zang, K., et al. 2013. Brd2 inhibits adipogenesis via the ERK1/2 signaling pathway in 3T3-L1 adipocytes. *PLoS ONE* 8: e78536.
2. 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.
3. Lu, H.Y., et al. 2018. Fecal fermentation products of common bean-derived fiber inhibit C/EBP $\alpha$  and PPAR $\gamma$  expression and lipid accumulation but stimulate PPAR $\delta$  and UCP2 expression in the adipogenesis of 3T3-L1 cells. *J. Nutr. Biochem.* 60: 9-15.
4. Xiang, A., et al. 2019. IGFBP5 suppresses oleate-induced intramyocellular lipids deposition and enhances Insulin signaling. *J. Cell. Physiol.* 234: 15288-15298.
5. Yamamuro, T., et al. 2020. Age-dependent loss of adipose Rubicon promotes metabolic disorders via excess autophagy. *Nat. Commun.* 11: 4150.

## RESEARCH USE

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