

E-FABP (B-3): sc-365166

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). Epithelial fatty acid-binding protein (E-FABP) binds stearic acid and may play a role in keratinocyte differentiation. E-FABP is upregulated in rat dorsal root ganglia after sciatic nerve crush and in differentiating neurons during development.

REFERENCES

1. Veerkamp, J.H., et al. 1995. Cytoplasmic fatty acid-binding proteins: their structure and genes. *Prog. Lipid Res.* 34: 17-52.
2. Hotamisligil, G.S., et al. 1996. Uncoupling of obesity from Insulin resistance through a targeted mutation in aP2, the adipocyte fatty acid binding protein. *Science* 274: 1377-1379.
3. Storch, J., et al. 2000. The fatty acid transport function of fatty acid-binding proteins. *Biochim. Biophys. Acta* 1486: 28-44.
4. Allen, G.W., et al. 2000. Depletion of a fatty acid-binding protein impairs neurite outgrowth in PC-12 cells. *Brain Res. Mol. Brain Res.* 76: 315-324.
5. Glatz, J.F., et al. 2001. Unravelling the significance of cellular fatty acid-binding proteins. *Curr. Opin. Lipidol.* 12: 267-274.
6. Veerkamp, J.H., et al. 2001. Fatty acid-binding proteins of nervous tissue. *J. Mol. Neurosci.* 16: 133-142.
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CHROMOSOMAL LOCATION

Genetic locus: FABP5 (human) mapping to 8q21.13; Fabp5 (mouse) mapping to 3 A1.

SOURCE

E-FABP (B-3) is a mouse monoclonal antibody raised against amino acids 29-73 mapping within an internal region of E-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.

STORAGE

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

APPLICATIONS

E-FABP (B-3) is recommended for detection of E-FABP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 E-FABP siRNA (h): sc-41237, E-FABP siRNA (m): sc-41238, E-FABP shRNA Plasmid (h): sc-41237-SH, E-FABP shRNA Plasmid (m): sc-41238-SH, E-FABP shRNA (h) Lentiviral Particles: sc-41237-V and E-FABP shRNA (m) Lentiviral Particles: sc-41238-V.

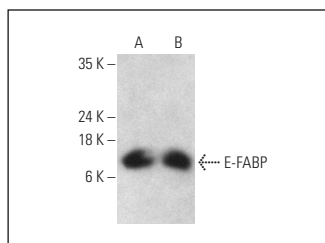
Molecular Weight of E-FABP: 15 kDa.

Positive Controls: A-375 cell lysate: sc-3811, E-FABP (h): 293T Lysate: sc-113029 or HEL 92.1.7 cell lysate: sc-2270.

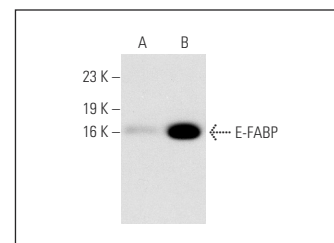
RECOMMENDED SUPPORT REAGENTS

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



E-FABP (B-3): sc-365166. Western blot analysis of E-FABP expression in HEL 92.1.7 (A) and A-375 (B) whole cell lysates.



E-FABP (B-3): sc-365166. Western blot analysis of E-FABP expression in non-transfected: sc-117752 (A) and human E-FABP transfected: sc-113029 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Moreno-Castellanos, N., et al. 2017. The cytoskeletal protein septin 11 is associated with human obesity and is involved in adipocyte lipid storage and metabolism. *Diabetologia* 60: 324-335.
2. Cypryk, W., et al. 2017. Proteomic and bioinformatic characterization of extracellular vesicles released from human macrophages upon influenza A virus infection. *J. Proteome Res.* 16: 217-227.

RESEARCH USE

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