SANTA CRUZ BIOTECHNOLOGY, INC.

ILBP (4A4): sc-517090

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The fatty acid binding protein (FABP) family of cytoplasmic hydrophobic ligand binding proteins influence lipid metabolism by binding and transporting long-chain fatty acids. Ileal lipid binding protein (ILBP) is a cytosolic ileocyte FABP that binds to both bile acids and fatty acids thereby mediating active uptake of bile acid in the ileum. Transport of bile acids from the liver is essential for the solubilization and transport of dietary lipids. ILBP contains ten antiparallel β strands arranged in two nearly orthogonal β sheets (β clam shell), covered on one side by two short, nearly parallel α helices. Binding of fatty acids or bile acids to ILBP alters the side-chain proton resonances of amino acids within the protein cavity and increases the affinity of ILBP for bile acids; bile acid binding to ILBP is a positive-feedback regulation mechanism. The human ILBP gene maps to position 5q33.3, with transcript being abundant in the small intestine.

REFERENCES

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2. Lucke, C., et al. 1996. Flexibility is a likely determinant of binding specificity in the case of ileal lipid binding protein. Structure 4: 785-800.
3. Borchers, T., et al. 1997. Heart-type fatty acid binding protein-involvement in growth inhibition and differentiation. Prostaglandins Leukot. Essent. Fatty Acids 57: 77-84.
4. Kramer, W., et al. 1998. Intestinal absorption of bile acids: paradoxical behaviour of the 14 kDa ileal lipid-binding protein in differential photoaffinity labelling. Biochem. J. 333: 335-341.
5. Lucke, C., et al. 1999. A comparative study of the backbone dynamics of two closely related lipid binding proteins: bovine heart fatty acid binding protein and porcine ileal lipid binding protein. Mol. Cell. Biochem. 192: 109-121.
6. Grober, J., et al. 1999. Identification of a bile acid-responsive element in the human ileal bile acid-binding protein gene. Involvement of the farnesoid X receptor/9-*cis*-retinoic acid receptor heterodimer. J. Biol. Chem. 274: 29749-29754.
7. Lucke, C., et al. 2000. Solution structure of ileal lipid binding protein in complex with glycocholate. Eur. J. Biochem. 267: 2929-2938.
8. Kramer, W., et al. 2001. Identification of the bile acid-binding site of the ileal lipid-binding protein by photoaffinity labeling, matrix-assisted laser desorption ionization-mass spectrometry, and NMR structure. J. Biol. Chem. 276: 7291-7301.
9. Barley, N.F., et al. 2003. Human ileal bile acid-binding protein promoter and the effects of CDX2. Biochim. Biophys. Acta 1630: 138-143.

CHROMOSOMAL LOCATION

Genetic locus: FABP6 (human) mapping to 5q33.3.

RESEARCH USE

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

SOURCE

ILBP (4A4) is a mouse monoclonal antibody raised against amino acids 1-128 representing full length ILBP of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ILBP (4A4) is recommended for detection of ILBP of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ILBP siRNA (h): sc-41241, ILBP shRNA Plasmid (h): sc-41241-SH and ILBP shRNA (h) Lentiviral Particles: sc-41241-V.

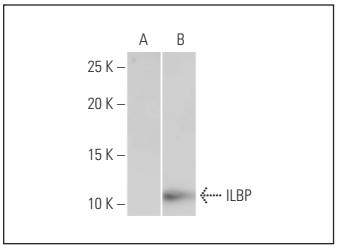
Molecular Weight of ILBP: 14 kDa.

Positive Controls: ILBP transfected 293T whole cell lysate.

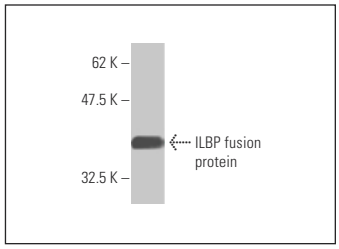
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



ILBP (4A4): sc-517090. Western blot analysis of ILBP expression in non-transfected (**A**) and ILBP transfected (**B**) 293T whole cell lysates.



ILBP (4A4): sc-517090. Western blot analysis of human recombinant ILBP fusion protein.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.