Human FABP2/I-FABP Antibody

Monoclonal Mouse IgG_1 Clone # 323730

Catalog Number: MAB30781

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human FABP2/I-FABP in ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant human FABP1, 3, 5, 6, 7, 8, 9, recombinant mouse FABP4, 9, or recombinant rat FABP2 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 323730
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human FABP2/I-FABP Ala2-Asp132 Accession # P12104
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Human FABP2 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human FABP2/I-FABP Antibody (Catalog # MAB30781)
ELISA Detection	0.1-0.4 µg/mL	Human FABP2/I-FABP Biotinylated Antibody (Catalog # BAF3078)
Standard		Recombinant Human FABP2/I-FABP (Catalog # 2694-CL/CF)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Fatty acid binding protein-2 (FABP2; also I- or intestinal FABP) is a member of a large superfamily of lipid binding proteins that are expressed in a tissue specific manner (1-3). FABP2 is one of nine cytoplasmic FABPs that are 14-15 kDa in size and range from 126-134 amino acids (aa) in length (2). Although all are highly conserved in their tertiary structure, there is only modest aa identity between any two members. Nevertheless, based on aa sequence, the nine FABP family members have been shown to form three subgroups, with FABP2/I-FABP linked with liver/L-FABP and heart/H-FABP (2). The designation of a tissue type, such as intestinal, does not suggest the binding protein is universally expressed in all cell types that make up the organ or tissue. Human I-FABP, the product of the FABP-2 gene, is a 132 aa cytosolic protein that shows a flattened β-barrel structure (called a β-clam) generated by a series of antiparallel β-strands and two α-helices (1, 2, 4). Preferred ligands for FABP2 include sixteen to twenty carbon long chain fatty acids (4). It is suggested that ligands first bind to the outside of the molecule, and this binding subsequently induces a conformational change in the binding protein, resulting in “internalization” of the ligand.(1) An Ala-to-Thr polymorphism at position # 54 has been reported to potentially impact FABP2 function (2). This polymorphism has been suggested to be associated with an increased risk of type II diabetes. To date, the evidence appears to be equivocal (1, 2). This polymorphism may, however, have unusual metabolic effects depending upon the type of diet involved (1, 5). Human FABP-2 is 78%, 82% and 86% aa identical to mouse, rat and canine FABP2, respectively. It also shows 33% and 24% aa identity to human H-FABP and L-FABP, respectively. FABP2 is proposed to transport fatty acids (FA) into cells, increase FA availability to enzymes, protect cell structures from FA attack, and target FA to transcription factors in the nuclear lumen (3).

References:

1. Weiss, E.P. *et al.* (2002) Physiol. Genomics **10**:145.
2. Zimmerman, A.W. and J.H. Veerkamp (2002) Cell. Mol. Life Sci. **59**:1096.
3. Haunerland, N.H. and F. Spener (2004) Prog. Lipid Res. **43**:328.
4. Sweetser, D.A. *et al.* (1987) J. Biol. Chem. **262**:16060.
5. Dworatzek, P. *et al.* (2004) Am. J. Clin. Nutr. **79**:1110.