SANTA CRUZ BIOTECHNOLOGY, INC.

IAP (AP1B9): sc-53335

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The intestinal alkaline phosphatase gene (ALPI) encodes a digestive brush-border enzyme, IAP (also designated ALP), which is highly upregulated during small intestinal epithelial cell differentiation. IAP, an enterocyte differentiation marker that functions to limit fat absorption, has been implicated in *trans*-cellular transport of chylomicrons and in chylomicron formation. At high pH, IAP removes phosphate groups from proteins and from the 5' end of DNA and RNA. Most mammals have four different IAP isozymes: placental, placental-like, intestinal and non tissue-specific. Non tissue-specific isozymes are found in liver, kidney and bone. Tissues with particularly high concentrations of IAP include the liver, bile ducts, placenta and bone. Damaged or diseased tissue releases enzymes into the blood, so serum IAP measurements can be abnormal in many conditions, including bone disease and liver disease. Serum IAP levels vary among ABO blood groups, and fatty acid metabolism may change among ABO blood types. Intestinal alkaline phosphatase is more prevalent in humans of blood group O or B.

REFERENCES

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3. Moss, F.M., Bobrow, L.G., Beverley, P.C.L. and Souhami, R.L. 1988. Detection of small cell carcinoma in bone marrow aspirates using monoclonal antibodies and mixtures of monoclonal antibodies. Lung Cancer 4: 76-78.
4. Cho, S.R., Lim, Y.A. and Lee, W.G. 2005. Unusually high alkaline phosphatase due to intestinal isoenzyme in a healthy adult. Clin. Chem. Lab. Med. 43: 1274-1275.
5. Olsen, L., Bressendorff, S., Troelsen, J.T. and Olsen, J. 2005. Differentiation-dependent activation of the human intestinal alkaline phosphatase promoter by HNF-4 in intestinal cells. Am. J. Physiol. Gastrointest. Liver Physiol. 289: G220-G226.
6. Luong, K.V. and Nguyen, L.T. 2005. Adult hypophosphatasia and a low level of red blood cell thiamine pyrophosphate. Ann. Nutr. Metab. 49: 107-109.
7. Nakano, T., Shimanuki, T., Matsushita, M., Koyama, I., Inoue, I., Katayama, S., Alpers, D.H. and Komoda, T. 2006. Involvement of intestinal alkaline phosphatase in serum apolipoprotein B-48 level and its association with ABO and secretor blood group types. Biochem. Biophys. Res. Commun. 341: 33-38.
8. Malo, M.S., Mozumder, M., Zhang, X.B., Biswas, S., Chen, A., Bai, L.C., Merchant, J.L. and Hodin, R.A. 2006. Intestinal alkaline phosphatase gene expression is activated by ZBP-89. Am. J. Physiol. Gastrointest. Liver Physiol. 290: G737-G746.

SOURCE

IAP (AP1B9) is a mouse monoclonal antibody raised against IAP of calf origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IAP (AP1B9) is recommended for detection of IAP of bovine origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of IAP: 67 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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.

SELECT PRODUCT CITATIONS

1. Tanei, R., Hasegawa, Y. and Sawabe, M. 2013. Abundant immunoglobulin E-positive cells in skin lesions support an allergic etiology of atopic dermatitis in the elderly. J. Eur. Acad. Dermatol. Venereol. 27: 952-960.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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