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Antibodies to Bone marrow stromal cell antigen-1

Bone marrow stromal cell antigen-1 (Bst1) antibodies. Catalog # BST1-101AP.

Accession # and Alternate Nomenclature: CD157; ADP-Ribosyl cyclase 2; Bonemarrow stromal antigen 1.

Bone marrow stromal cell antigen-1 is ADP-ribosyl cyclases 2 enzyme and is also known as CD157. BST1 is a stromal cell line-derived glycosylphosphatidylinositol-anchored molecule that facilitates pre-B-cell growth (1). BST1/CD157 molecule displays two distinct domains in its extracellular component. The first is implicated in the enzymic activities of the molecule and the second features adhesion/signalling properties. After stress or inflammation BST1 is released in extracellular compartment. It is one of the key factors in regulation of innate immunity. BST1 is a pleiotropic ectoenzyme which belongs to the CD38 family. Bst1 has 33% amino acid sequence similarity with CD38. These molecules are involved in the metabolism of NAD(+), capable of consuming extracellular NAD(+). The BST1/CD157 gene is located synthetically on chromosome 4p15 alongwith CD38.

BST1 is expressed in stromal cells, human neutrophils, leukocytes and corneal cells. In eye it has different from CD38 profile of expression and is expressed by basal limbal clusters, a p63(+)/cytokeratin 19(+) cell subset reported to contain corneal stem cells, and by stromal cells. BST1 expression is increased in rheumatoid arthritis cell line (2). This BST1 overexpression in stromal cells may lead to polyclonal B-cell abnormalities in rheumatoid arthritis patients. BST1 is expressed as a 42- to 45-kDa doublet. It is physically interacts with CD11b/CD18 complex in human neutrophils. Its function is described as NAD+ nucleosidase activity and hydrolase activity. It involved in process of humoral immune response, metabolic process and multicellular organismal development (6). Crystal structures of the extracellular region of human BST-1 at atomic resolution in the free form and in complexes with five substrate analogues: nicotinamide, NMN, ATPgamma-S, ethenoNADP, and ethenoNAD has been deduced (5). The BST1 expression is decreased and was deficient in paroxysmal nocturnal hemoglobinemia; crucial to regulation of innate immunity during inflammation.

BST1-selective antibodies were generated against unique antigenic peptide sequences form BST1 protein, this peptide sequence was not found in any other protein listed in the gene bank. The BST1 antibodies were affinity purified over immobilized antigen based chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. FabGennix Int. Inc., will also provide limited quantities of antigenic blocking peptide for BST1. Antibodies to several other Innate Immunity targets are also available from FabGennix International Inc. For a complete list of antibodies please visit <http://www.fabgennix.com>. FabGennix Inc. will conjugate antibodies with secondary enzymes (alk-Pase or HRP) or fluorescent probes upon request at a nominal cost. FabGennix Int. Inc., will also provide western blot positive controls for it antibodies in ready-to-use buffer. Limited quantities of antigenic blocking peptide is available (Please inquire before placing orders).

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Volume
BST1-101AP	Rabbit	Affinity purified bonemarrow stromal antigen 1 antibodies	R, M, H	100 ug	200ul
BST1-FITC	Rabbit	FITC-conjugated BST1 antibodies	R, M, H	100ug	200ul
P-BST1	n/a	Antigenic blocking peptide for BST1-101AP	n/a	250 ug	100ul
PC-BST1	n/a	Western blotting positive control for BST1	n/a	For 5 appl	inquire

R = rat; M = mouse; H = human; C = chicken; monk = monkey; * not all variants are labeled equally

Immunogen: Synthetic peptides corresponding to unique epitope on BST1 protein. The peptide sequence was unique to BST1 protein and was not present on any other BST family members. The BST1 peptide was covalently modified post-synthetically to achieve desired antigenicity.

Concentration: BST1-101AP: IgG concentration 0.65-0.70 mg/ml in antibody stabilization buffer.

Applications: Antibody BST1-101AP is ideal for WB and ELISA applications, other applications have not been tested. These antibodies do not cross react to other members of the Ras family or to other ARF members. The species cross reactivity for these antibodies have not been examined fully. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d. ELISA <1:10,000. Application of this antibody in protocols not listed here does not necessarily exclude its use in such procedures. Investigators using this antibody in applications not listed here may ask for a complimentary sample.

Reactivity: This antibody detects a single band of approximately 41-45kDa doublet in PC-BST1 samples.

Protocols: Standard protocol for various applications (WB; IMM and IHC) of this antibody is provided with the product specification sheet, however, FabGennix Inc., strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

Form/Storage: The antiserum is supplied in antibody stabilization buffer. The affinity-purified antibodies are isolated on immobilized antigen-affinity column and supplied as stabilized product. Store at -20°C for long-term storage. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45um filter after every use for long-term storage.

Notes: Briefly centrifuge to collect liquid, heat or boil PC-BST1 tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher MW immunoreactive bands.

New Reagents: Now you can recycle your western blots (nitrocellulose, supported membranes and PVDF membranes) by using our StripOBuffer (Cat FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating required. Block in 5X diluOBuffer and you are ready for blotting with a new antibody

References:

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- Kaisho T, Ishikawa J, Oritani K, Inazawa J, Tomizawa H, Muraoka O, Ochi T, Hirano T. BST-1, a surface molecule of bone marrow stromal cell lines that facilitates pre-B-cell growth. Proc Natl Acad Sci U S A. 1994 Jun 7;91(12):5325-9.

* For users who may require large amounts of BST1-101AP, FITC-BST1, PC-BST1 and P-BST1, please enquire about bulk material discounts.
This Product is for "Research Use Only" and is NOT intended for use in humans or clinical diagnosis.

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