BST2 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P75468
Synonyms:	Bone marrow stromal antigen 2; BST-2; HM1.24 antigen; Bst2
Species:	Mouse
Source:	HEK293
Accession:	Q8R2Q8 (T52-N151)
Gene ID:	69550
Molecular Weight:	Approximately 13.6-24 kDa

PROPERTIES

AA Sequence	T A N S V A C R D G L R A Q A E C R N T T H L L Q R Q L T R T Q D S L L Q A E T Q A N S C N L T V V T L Q E S L E K K V S Q A L E Q Q A R I K E L E N E V T K L N Q E L E N L R I Q K E T S S T V Q V N
Biological Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse BST-2/Tetherin is immobilized at 1 μg/mL (100 μL/well) can bind Biotinylated Recombinant Viral Dengue Virus 4 Envelope. The ED_{50} for this effect is 0.349 μg/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	BST2 Protein, an IFN-induced antiviral host restriction factor, serves as a potent inhibitor of diverse mammalian enveloped viruses by directly tethering nascent virions to the membranes of infected cells. Functioning as a direct physical tether, BST2 holds virions to the cell membrane, facilitating their linkage to each other. This unique mechanism restrains the release of virions, which can be internalized by endocytosis and subsequently degraded, or remain on the cell surface, limiting their spread as cell-free virions. Targeting viruses from various families, including retroviridae (e.g., HIV-1, MMTV, MLV), filoviridae

(e.g., EBOV), arenaviridae (e.g., LASV), and rhabdoviridae (e.g., VSV), BST2 demonstrates broad antiviral activity. Beyond its role in viral restriction, BST2 also inhibits the cell surface proteolytic activity of MMP14, leading to decreased activation of MMP15 and consequent inhibition of cell growth and migration. Additionally, BST2 can stimulate signaling by LILRA4/ILT7, providing negative feedback to the production of IFN by plasmacytoid dendritic cells in response to viral infection. Furthermore, BST2 contributes to the organization of the subapical actin cytoskeleton in polarized epithelial cells. Structurally, BST2 forms a parallel homodimer that is disulfide-linked, and its dimerization is essential for its antiviral activity. The protein interacts with ARHGAP44, MMP14, and LILRA4/ILT7, revealing its involvement in diverse cellular processes and signaling pathways.

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