Recombinant Human BCAM His-tag

Catalog Number: 11173-BC

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human BCAM protein Glu32-Ala547, with a C-terminal 6-His tag Accession # CAA58449.1
N-terminal Sequence Analysis	Glu32
Predicted Molecular Mass	57 kDa

SPECIFICATIONS

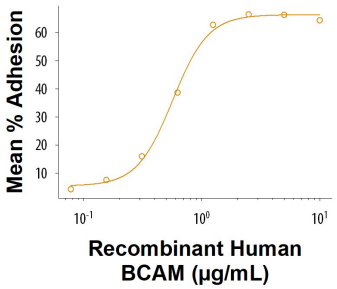
SDS-PAGE	67-82 kDa, under reducing conditions.
Activity	Measured by the ability of the immobilized protein to support the adhesion of TE-85 human osteogenic sarcoma cells. The ED_{50} for this effect is 0.250-3.00 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Supplied as a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 6 months from date of receipt, -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after opening. • 3 months, -20 to -70 °C under sterile conditions after opening.

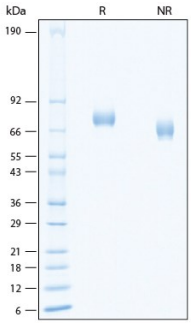
DATA

Bioactivity



Recombinant Human BCAM His-tag Protein Bioactivity. Recombinant Human BCAM His-tag Protein (Catalog # 11173-BC) supports the adhesion TE-85 human osteogenic sarcoma cells. The ED_{50} for this effect is 0.250-3.00 µg/mL.

SDS-PAGE



Recombinant Human BCAM His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human BCAM His-tag Protein (Catalog # 11173-BC) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 67-82 kDa.

GLOBAL info@bio-techne.com techsupport@bio-techne.com bio-techne.com/find-us/distributors TEL +1(612) 379 2956
NORTH AMERICA TEL 800 343 7475 • EUROPE | MIDDLE EAST | AFRICA TEL +44 (0)1235 529449
CHINA info.cn@bio-techne.com TEL +86 (21) 52380373

Recombinant Human BCAM His-tag

Catalog Number: 11173-BC

BACKGROUND

Human Basal Cell Adhesion Molecule (BCAM), also known as CD239, is an immunoglobulin superfamily protein that arises from alternate splicing of the Lutheran blood group molecule (Lu). Lu and BCAM differ by a 40 amino acid (aa) SH3-containing segment that is present in the cytoplasmic domain of Lutheran (1). Mature human BCAM consists of an extracellular domain (ECD) with two Ig-like V-type domains and three Ig-like C2-type domains, a transmembrane domain, and a short cytoplasmic domain (2,3). Within the ECD, human BCAM shares 73% amino acid (aa) identity with mouse and rat BCAM. A polymorphism at position 77 within the ECD is the basis for the difference between the Lua and Lub Lutheran blood groups (4). BCAM is widely expressed in epithelial and endothelial tissues including in the vasculature, kidney glomerulus, small intestine, colon, hair follicle outer root sheath, and basal keratinocytes of the skin during inflammation (5-7). BCAM is also expressed on vascular and visceral smooth muscle cells and at the neuromuscular junction of skeletal muscle (6,8,9). Lu/BCAM binds to laminin, specifically isoforms containing the α5 chain, which are found in basement membranes and are involved in cell differentiation, adhesion, migration, and proliferation (10). Overexpression of both BCAM and Lu on sickle red blood cells (SS RBC) has been found to play a role in vaso-occlusive crisis in sickle cell patients by contributing to the adhesion of erythrocytes to the vascular wall (11,12). The adhesive role of Lu/BCAM has been studied in the context of many diseases, including sickle cell disease, hereditary spherocytosis, myeloproliferative neoplasms and Gaucher disease (13). BCAM is upregulated on carcinomas, sarcomas, astrocytomas, and melanomas (14). Additionally, Lu/BCAM has been found to assist tumor cell migration via regulation of integrin-mediated cell attachment to laminin-511 (15).

References:

1. Rahuel, C. *et al.* (1996) Blood **88**:1865.
2. Vainionpaa, N. *et al.* (2006) Am. J. Physiol. Cell Physiol. **290**:C764.
3. El Nemer, W. *et al.* (1997) Blood **89**:4608.
4. El Nemer, W. *et al.* (1999) J. Biol. Chem. **274**:31903.
5. Schon, M. *et al.* (2000) J. Invest. Dermatol. **115**:1047.
6. Rahuel, C. *et al.* (2008) Am. J. Physiol. Renal Physiol. **294**:F393.
7. Rettig, W.J. *et al.* (1986) Cancer Res. **46**:6406.
8. Nishimune, H. *et al.* (2008) J. Cell Biol. **182**:1201.
9. Kikkawa, Y. *et al.* (2007) J. Biol. Chem. **282**:14853.
10. El Nemer, W. *et al.* (2001) J Biol Chem **276**:23757.
11. Eyler, C.E. and Telen, M.J. (2006) Transfusion. **46**(4).
12. Klei, TRL. *et al.* (2018) Blood Adv. **2**:14.
13. Guadall, A. *et al.* (2019). J. Biol. Chem. **294**:14911.
14. Chang, H.Y. *et al.* (2017) J. Biomed Sci **24**:61.
15. Kikkawa, Y. *et al.* (2013) J. Biol. Chem. **288**:30990.

GLOBAL info@bio-techne.com techsupport@bio-techne.com bio-techne.com/find-us/distributors TEL +1(612) 379 2956
NORTH AMERICA TEL 800 343 7475 • EUROPE | MIDDLE EAST | AFRICA TEL +44 (0)1235 529449
CHINA info.cn@bio-techne.com TEL +86 (21) 52380373