Recombinant Human CEACAM-20 His-tag

Catalog Number: 10277-CM

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human CEACAM-20 protein Gln31-Gly450, with a C-terminal 6-His tag Accession # Q6UY09-1
N-terminal Sequence Analysis	Gln31 inferred from enzymatic pyroglutamate treatment revealing Leu32
Predicted Molecular Mass	47 kDa

SPECIFICATIONS

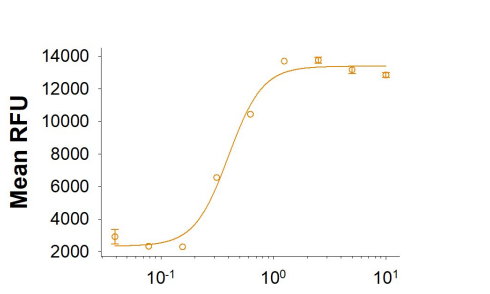
SDS-PAGE	73-84 kDa, under reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of the L Cells mouse fibroblast cell line. The ED_{50} for this effect is 0.25-1.5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Immobilized Recombinant Human CEACAM-20 His-tag (Catalog # 10277-CM) enhances L cells mouse fibroblast cell line adhesion. The ED_{50} for this effect is 0.25-1.5 µg/mL.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Recombinant Human CEACAM-20 His-tag

Catalog Number: 10277-CM

BACKGROUND

Carcinoembryonic antigen-related cell adhesion molecule-20 (CEACAM-20) is a member of the CEACAM subfamily of glycoproteins in the immunoglobulin (Ig) superfamily. Mature human CEACAM-20 consists of a 420 amino acid (aa) extracellular domain (ECD), a 21 aa helical transmembrane segment, and a 114 aa cytoplasmic domain. The extracellular domain possesses four IgC2-like domains which are stabilized by disulfide bonds, as well as several predicted glycosylation sites (1-5). The extracellular domain of CEACAM-20 is also unique among the CEACAMs because it contains a truncated IgV-like N domain (2). Within the ECD, human CEACAM-20 shares 64% and 62% aa identity with the mouse and rat CEACAM-20, respectively. The cytoplasmic domain is unusually long compared to most other CEACAMs and is predicted to contain four tyrosine phosphorylation sites, two of which correspond to the immune-receptor tyrosine-based activation motif (ITAM) (2, 3). Human CEACAM proteins have been linked to numerous intercellular-adhesion and intracellular signaling processes including cell adhesion, growth, and recognition, differentiation, angiogenesis, and apoptosis (7, 8). Human CEACAM-20 expression is limited to the reproductive system and the intestinal tract, with the highest levels of expression found in the small intestine and prostate (2, 3). An *in vitro* model of human prostate morphogenesis showed that CEACAM-20 is co-expressed with CEACAM-1 and plays a critical role in the formation of prostate organoids, making it a marker for prostate cancer (2). Although the exact mechanism is not fully understood, CEACAM-20 may promote the proliferation of intestinal epithelial cells (IECs) (9). There is evidence suggesting CEACAM-20 can induce the production of chemokines like interleukin (IL)-8 and stimulate inflammatory responses in colitis and Crohn's disease (6). CEACAM-20 is also thought to act as a physiological substrate for SAP-1 in the intestinal epithelium (10).

References:

1. Tchoupa, A. *et al.* (2014) J Cell Commun Signal **12**:27.
2. Zhang, H. *et al.* (2013) PLoS ONE **8**:e53359.
3. Zebhauser, R. *et al.* (2005) Genomics **86**:566.
4. Beauchemin, N. Arabzadeh, A. (2013) Cancer Metastasis Rev **32(3)**:643.
5. Kuespert, K. *et al.* (2006) Curr Opin Cell Biol **18**:565.
6. Murata, Y. *et al.* (2015) PNAS E4264.
7. Obrink, B. (1997) Curr Opin Cell Biol **9**:616.
8. Horst, AK. Wagener, C. (2004) Handb Exp Pharmacol 283.
9. Kitamura, Y. *et al.* (2015) Genes to Cells **20**:578.
10. Kotani, T. *et al.* (2016) Expert Review of Gastroenterology & Hepatology. **10**:1313.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449