

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Arg136-Lys690, with a C-terminal 6-His tag
Accession # Q14574

N-terminal Sequence Analysis Arg136

Predicted Molecular Mass 62.9 kDa

SPECIFICATIONS

SDS-PAGE 75-85 kDa, reducing conditions

Activity Measured by the ability of the immobilized protein to support the adhesion of BUD-8 human fibroblast cells.
When 3×10^4 cells/well are added to rhDSC3 coated plates (10 µg/mL, 100 µL/well), approximately 45-65% will adhere after 90 minutes at 37° C.

Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.

Purity >85%, 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 100 µg/mL in sterile 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.

BACKGROUND

Desmocollin-3 is a 100 - 110 kDa type I transmembrane glycoprotein that belongs to the cadherin family of calcium dependent adhesion molecules (1 - 3). The human Desmocollin-3 is synthesized with a 108 amino acid (aa) propeptide. The mature protein consists of a 555 aa extracellular domain (ECD) that contains five cadherin-like domains, a 21 aa transmembrane segment, and a 185 aa cytoplasmic domain (4, 5). Within the ECD, human Desmocollin-3 shares 78% aa sequence identity with mouse and rat Desmocollin-3. It shares 52% and 64% aa sequence identity with Desmocollin-1 and -2, respectively. A splice variant of human Desmocollin-3 has a truncated and substituted cytoplasmic domain (4, 6). Desmocollin-3 is one of the principal components of desmosomes which form adhesive contacts between epithelial cells (1, 2). It is expressed in the basal and suprabasal layers of stratified epithelia in many tissues (5, 7, 8). Desmocollin-1 and -2, by contrast, are preferentially localized in the more superficial layers (7). In mouse, Desmocollin-3 is expressed throughout embryogenesis and is required for non-desmosomal functions during early development (9, 10). During apoptosis, both isoforms of Desmocollin-3 are proteolytically cleaved by caspases and metalloproteases (11). Desmocollin-3 can be upregulated or downregulated in carcinoma (6, 12, 13).

References:

1. Kottke, M.D. *et al.* (2006) J. Cell Sci. **119**:797.
2. Garrod, D.R. *et al.* (2002) Mol. Memb. Biol. **19**:81.
3. Leckband, D. and A. Prakasam (2006) Annu. Rev. Biomed. Eng. **8**:259.
4. Kawamura, K. *et al.* (1994) J. Biol. Chem. **269**:26295.
5. King, I.A. *et al.* (1995) J. Invest. Dermatol. **105**:314.
6. Klus, G.T. *et al.* (2001) Int. J. Oncol. **19**:169.
7. North, A.J. *et al.* (1996) Proc. Natl. Acad. Sci. **93**:7701.
8. Nuber, U.A. *et al.* (1996) Eur. J. Cell Biol. **71**:1.
9. Chidgey, M.A.J. *et al.* (1997) Dev. Dyn. **210**:315.
10. Den, Z. *et al.* (2006) J. Cell Sci. **119**:482.
11. Weiske, J. *et al.* (2001) J. Biol. Chem. **276**:41175.
12. Wang, L. *et al.* (2007) Virchows Arch. Sept. 11 epub.
13. Boelens, M.C. *et al.* (2007) J. Clin. Pathol. **60**:608.