

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived		
	Human Desmoglein-4 (Glu24-Ala631) Accession # Q86SJ6	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus

<b>N-terminal Sequence Analysis</b>	Glu24
<b>Structure / Form</b>	Disulfide-linked homodimer
<b>Predicted Molecular Mass</b>	94 kDa

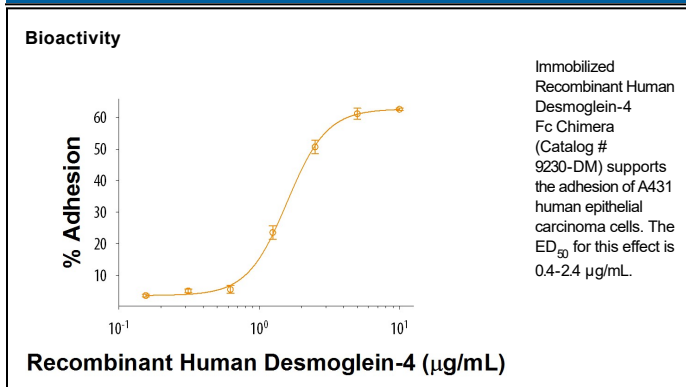
**SPECIFICATIONS**

<b>SDS-PAGE</b>	95-115 kDa, reducing conditions
<b>Activity</b>	Measured by the ability of the immobilized protein to support the adhesion of A431 human epithelial carcinoma cells. The ED <sub>50</sub> for this effect is 0.4-2.4 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>80%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**



**BACKGROUND**

Desmoglein-4 is an approximately 140 kDa transmembrane glycoprotein in the cadherin family of calcium dependent adhesion molecules. Human Desmoglein-4 is synthesized with a 26 amino acid (aa) propeptide followed by a 582 aa extracellular domain (ECD) with four tandem cadherin-like domains, a 21 aa transmembrane segment, and a 388 aa cytoplasmic domain (1, 2). Within the ECD, human Desmoglein-4 shares 82% aa sequence identity with mouse and rat Desmoglein-4. Alternative splicing generates additional isoform with a substitution in the cytoplasmic domain. Desmoglein-4 is the principal cadherin of desmosomes which form adhesive contacts between epithelial cells (2, 3). It is expressed in hair follicles and differentiated keratinocytes in suprabasal layers of the skin and plays a role in keratinocyte differentiation and adhesion (2, 3). Mutations in human Desmoglein-4 are associated with the development of monilethrix autosomal recessive hypotrichosis (LAH) (2, 4-8). Autoantibodies directed against Desmoglein-3 in the blistering skin disorder pemphigus vulgaris can cross-react with Desmoglein-4 (2, 9, 10).

**References:**

1. Whittock, N.V. and C. Bower (2003) *J. Invest. Dermatol.* **120**:523.
2. Kljuic, A. *et al.* (2003) *Cell* **113**:249.
3. Bazzi, H. *et al.* (2006) *Differentiation* **74**:129.
4. Bazzi, H. *et al.* (2005) *J. Investig. Dermatol. Symp. Proc.* **10**:222.
5. Schaffer, J.V. *et al.* (2006) *J. Invest. Dermatol.* **126**:1286.
6. Shimomura, Y. *et al.* (2006) *J. Invest. Dermatol.* **126**:1281.
7. Zlotogorski, A. *et al.* (2006) *J. Invest. Dermatol.* **126**:1292.
8. Kato, M. *et al.* (2015) *J. Invest. Dermatol.* **135**:1253.
9. Nagasaka, T. *et al.* (2004) *J. Clin. Invest.* **114**:1484.
10. Calkins, C.C. *et al.* (2006) *J. Biol. Chem.* **281**:7623.