

## Background

X-linked ectodysplasin receptor (XEDAR) is a type III transmembrane that lacks an N-terminal signal peptide. It is an X-linked member of the TNF Receptor Superfamily (TNFRSF). Human XEDAR is a 297 amino acid (aa) protein with a 136 aa extracellular domain, a 21 aa transmembrane domain, and a 140 aa cytoplasmic domain. Within the TNFRSF, XEDAR shares the highest homologies with EDAR and TNFRSF19/TROY. EDA-A2 is the XEDAR ligand. XEDAR expression is principally found in embryonic hair follicles. XEDAR, EDAR, EDA-A1 and EDA-A2 have been associated with hypohidrotic ectodermal dysplasia (HED). HED is characterized by abnormalities in hair, teeth, and eccrine sweat gland morphogenesis. HED was initially found to associate with two gene loci, *tabby* and *downless*. *Tabby* was later identified as the gene for EDA and *downless* as the autosomal EDAR gene. EDA has two splice variants, EDA-A1 and EDA-A2 which differ by only two amino acids. Despite this minor difference, the EDA isoforms display strong receptor specificity. EDA-A1 only binds EDAR, whereas EDA-A2 only binds to XEDAR. Mutations in EDA, EDAR and XEDAR have been associated with HED.

## References:

1. Headon, D.J. and P.A Overbeek (1999) Nat. Genet. **22**:370.
2. Kumar, A. *et al.* (2000) J. Biol. Chem. **276**:2668.
3. Monreal, A.W. *et al.* (1999) Nat. Genet. **22**:366.
4. Schneider, P. *et al.* (2001) J. Biol. Chem. **276**:18819.
5. Srivastava, A.K. *et al.* (1997) Proc. Natl. Acad. Sci. USA **94**:13069.
6. Yan, M. *et al.* (2000) Science **290**:523.

## Description

<b>Source</b>	Murine myeloma cell line, NS0-derived		
	Human XEDAR (Met1 - Glu136) Accession # Q9HAV5	DIEGRMD	Human IgG <sub>1</sub> (Pro100 - Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Met1 Analysis</b>			
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	41.8 kDa (monomer)		

## Specifications

<b>SDS-PAGE</b>	61 kDa, reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. Immobilized rhXEDAR/Fc Chimera at 1 µg/mL (100 µL/well) can bind rhEDA-A2/His with a linear range of 0.045 - 5 ng/mL.
<b>Endotoxin Level</b>	<1.0 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
<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 100 µg/mL in sterile 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>

8/5/2009

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NOT FOR USE IN HUMANS.