

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived EDAR protein Glu27-Ala187, with a C-terminal 6-His tag Accession # XP_005575282.1
<b>N-terminal Sequence Analysis</b>	Glu27; determined by Protein ID
<b>Predicted Molecular Mass</b>	18 kDa

**SPECIFICATIONS**

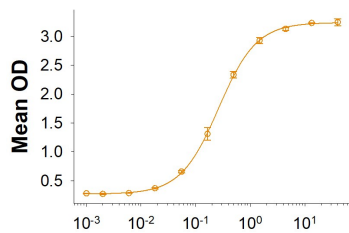
<b>SDS-PAGE</b>	28-41 kDa, under reducing conditions.
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Human EDA-A1/Ectodysplasin A1 Protein (Catalog # 3944-ED) is immobilized at 2.00 µg/mL (100 µL/well), Recombinant Cynomolgus Monkey/Rhesus Macaque EDAR His-tag (Catalog # 11350-ER) binds with an ED <sub>50</sub> of 0.200-3.00 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, 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 with Trehalose. 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>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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**

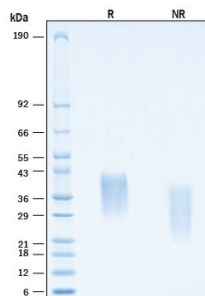
**Binding Activity**



Recombinant Cynomolgus Monkey/Rhesus Macaque EDAR (µg/mL)

**Recombinant Cynomolgus Monkey/Rhesus Macaque EDAR His-tag Protein Binding Activity.** Measured by its binding ability in a functional ELISA. When Recombinant Human EDA-A1/Ectodysplasin A1 Protein (Catalog # 3944-ED) is immobilized at 2.00 µg/mL (100 µL/well), Recombinant Cynomolgus Monkey/Rhesus Macaque EDAR His-tag Protein (Catalog # 11350-ER) binds with an ED<sub>50</sub> of 0.200-3.00 µg/mL.

**SDS-PAGE**



**Recombinant Cynomolgus Monkey/Rhesus Macaque EDAR His-tag Protein SDS-PAGE.** 2 µg/lane of Recombinant Cynomolgus Monkey/Rhesus Macaque EDAR His-tag Protein (Catalog # 11350-ER) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 28-41 kDa.

## BACKGROUND

EDAR is a type I transmembrane protein which is a member of the TNF Receptor Superfamily (TNFRSF). The extracellular domain contains 14 cysteine residues, six of which approximate the TNFRSF cysteine-rich region; the cytoplasmic domain contains a region with homology to the death domains found in other TNFRSF members. Based on its high homology with human EDAR, cynomolgus EDAR is predicted to be a 488 amino acid (aa) protein with a 26 aa signal, a 163 aa extracellular domain, a 22 aa transmembrane domain, and a 277 aa cytoplasmic domain. The cynomolgus and human EDAR homologs share 99% identity. Within the TNFRSF, EDAR shares the highest homologies with XEDAR and TNFRSF19/TROY. EDA-A1 is the EDAR ligand. EDA and EDAR 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 binds to XEDAR, an X-linked TNFRSF member with high homology to EDAR. 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.