

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human EDA2R/TNFRSF27/XEDAR in ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) 41BB, rhBAFF R, rhCD27, rhCD30, rhCD40, rhDR-3, rhDR-6, rhEDAR, rhFAS, rhGITR, rhHVEM, rhLTR-b, rhNGFR, rhOPG,                            |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 173103                                                                                                                                                                                                                            |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human EDA2R/TNFRSF27/XEDAR<br>Met1-Glu136<br>Accession # Q9HAV5                                                                                                                                                             |
| <b>Conjugate</b>          | Alexa Fluor 532<br>Excitation Wavelength: 534 nm<br>Emission Wavelength: 553 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

|                                                |                                                                        |
|------------------------------------------------|------------------------------------------------------------------------|
| <b>ELISA Capture (Matched Antibody Pair)</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>ELISA Detection (Matched Antibody Pair)</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>                            | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

X-linked Ectodysplasin Receptor (XEDAR), also known as EDA2R and TNFRSF27, is an approximately 45 kDa transmembrane protein in the TNF receptor superfamily (1). Mature human XEDAR consists of a 136 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 140 aa cytoplasmic domain (2). Within the ECD, human XEDAR shares 87% aa sequence identity with mouse and rat XEDAR. A 55 kDa long isoform of human XEDAR carries a 21 aa insertion in the juxtamembrane cytoplasmic domain (3). A 20 kDa fragment of the ECD can be shed by metalloprotease mediated cleavage (4). XEDAR binds selectively to the EDA-A2 variant of Ectodysplasin (EDA), while the closely related receptor EDAR binds selectively to the EDA-A1 variant (2). Other than a 2 aa deletion in its TNF-like domain, EDA-A2 is identical to EDA-A1 (2). Mutations in both EDAR and EDA are associated with hypohidrotic ectodermal dysplasia (HED), a disorder of hair, tooth, and eccrine sweat gland morphogenesis (5). XEDAR itself is strongly associated with androgenetic alopecia (male hair loss) (6). XEDAR is widely expressed, notably in embryonic basal epidermal cells and maturing hair follicles (2, 7, 8). Even though it does not contain a cytoplasmic death domain, XEDAR can associate with Fas and induce EDA-A2 dependent apoptosis (7, 9). Its transcription is directly induced by p53, and XEDAR mediated cell death is p53 dependent (7, 10). XEDAR is down-regulated in breast, colon, and lung cancers, particularly in cases with p53 mutations (7, 11). XEDAR also plays a role in EDA-A2 induced skeletal muscle degeneration and osteoblast differentiation (8, 12).

#### PRODUCT SPECIFIC NOTICES

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