Human TNF RI/TNFRSF1A
Biotinylated Antibody
Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: BAF225

**DESCRIPTION**

**Species Reactivity** Human

**Specificity** Detects human TNF RI in ELISAs and Western blots. In sandwich immunoassays, less than 0.02% cross-reactivity with recombinant human (rh) TNF-α, recombinant mouse (rm) TNF-α, recombinant porcine TNF-α, recombinant rat TNF-α, rhTNF-β, rmsTNF RI, rhsTNF RII, and rmsTNF RIII is observed.

**Source** Polyclonal Goat IgG

**Purification** Antigen Affinity-purified

**Immunogen** E. coli-derived recombinant human sTNF RI

**Formulation** Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**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.

<table>
<thead>
<tr>
<th>Application</th>
<th>Recommended Concentration</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Blot</td>
<td>0.1 μg/mL</td>
<td>Recombinant Human TNF RI/TNFRSF1A (Catalog # 636-R1)</td>
</tr>
<tr>
<td>Human TNF RI/TNFRSF1A Sandwich Immunoassay</td>
<td>2-8 μg/mL</td>
<td>Human TNF RI/TNFRSF1A Antibody (Catalog # MAB625)</td>
</tr>
<tr>
<td>ELISA Capture</td>
<td>0.1-0.4 μg/mL</td>
<td>Human TNF RI/TNFRSF1A Biotinylated Antibody (Catalog # BAF225)</td>
</tr>
<tr>
<td>ELISA Detection</td>
<td>Reagent</td>
<td>Recombinant Human TNF RI/TNFRSF1A (Catalog # 636-R1)</td>
</tr>
</tbody>
</table>

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 0.2 mg/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.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

TNF receptor 1 (TNF RI; also called TNF R-p55/p60 and TNFRSF1A) is a type I transmembrane protein member of the TNF receptor superfamily member, designated TNFRSF1A (1, 2). Both TNF RI and TNF RII (TNFRSF1B) are widely expressed and contain four TNF-α trimer-binding cysteine-rich domains (CRD) in their extracellular domains (ECD). However, TNF RI is thought to mediate most of the cellular effects of TNF-α (3). It is essential for proper development of lymph node germinal centers and Peyer’s patches, and for combating intracellular pathogens such as Listeria (1 - 3). TNF RI is also a receptor for TNF-β/TNFSF1B (lymphotoxin-α) (4). TNF RI is present on the cell surface as a trimer of 55 kDa subunits (4, 5). TNF-α induces sequestering of TNF RI in lipid rafts, where it activates NFkB and is cleaved by ADAM-17/TACE (9, 10). Release of the 28 - 34 kDa TNF RI ECD also occurs constitutively and in response to products of pathogens such as LPS, CpG DNA or S. aureus protein A (1, 6 - 8). Full-length TNF RI may also be released in exosome-like vesicles (11). Release helps to resolve inflammatory reactions, since it down-regulates cell surface TNF RI and provides soluble TNF RI to bind TNF-α (6, 12, 13). Exclusion from lipid rafts causes endocytosis of TNF RI complexes and induces apoptosis (1). Human TNF RI is a 455 amino acid (aa) protein that contains a 21 aa signal sequence, a 190 aa ECD with a PLAD domain(5) that mediates constitutive trimer formation, followed by the four CRD, a 23 aa transmembrane domain, and a 221 aa cytoplasmic sequence that contains a neutral sphingomyelinase activation domain and a death domain (15). The ECD of human TNF RI shows 80%, 80%, 73%, 69% and 70% aa identity with dog, cat, pig, rat and mouse TNF RI, respectively; it shows 23% aa identity with dog.

**References**