

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse TNF RI/TNFRSF1A in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) 4-1BB, rhCD27, rhCD30, recombinant mouse (rm) CD27, rmCD30, rhCD40, rmCD40, rhDR3, rhDR6, rmEDAR, rhFas, rmFas
Source	Monoclonal Hamster IgG Clone # 55R170
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Recombinant mouse TNF RI/TNFRSF1A Extracellular domain
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*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.

Neutralization	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunoprecipitation	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

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

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, 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/TNFRSF1B (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 NFκB 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). Mouse TNF RI is a 454 amino acid (aa) protein that contains a 21 aa signal sequence, a 191 aa ECD with a PLAD domain (5) that mediates constitutive trimer formation, followed by the four CRD, a 23 aa transmembrane domain, and a 219 aa cytoplasmic sequence that contains a neutral sphingomyelinase activation domain and a death domain (15). The ECD of mouse TNF RI shows 67%, 70%, 64%, 70% and 88% aa identity with canine, feline, porcine, human, and rat TNF RI, respectively; it shows 23% aa identity with the ECD of TNF RII.

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