

DESCRIPTION

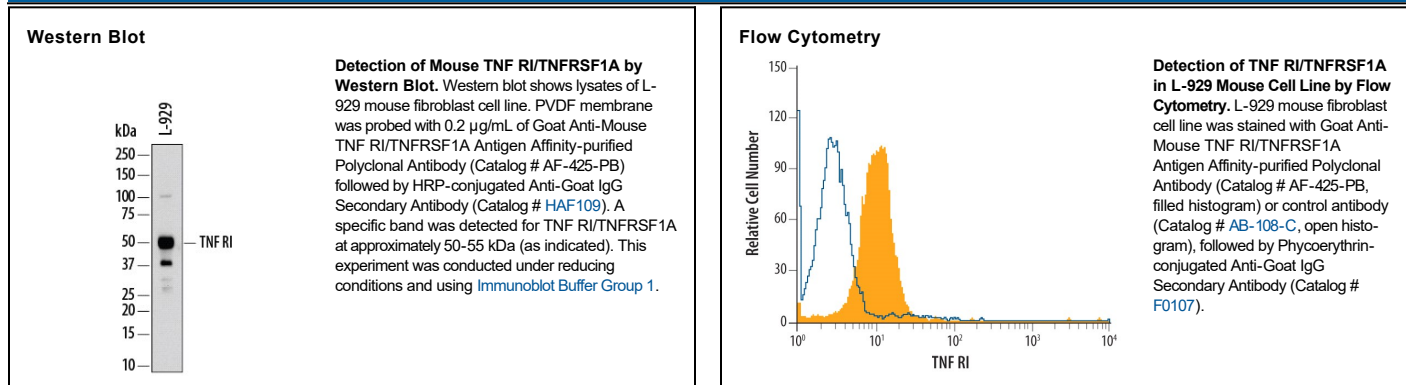
Species Reactivity	Mouse
Specificity	Detects mouse TNF RI/TNFRSF1A in direct ELISAs and Western blots. In direct ELISAs and Western blots (non-reducing conditions), less than 5% cross-reactivity with recombinant human TNF RI is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse TNF RI Ile22-Ala212 Accession # P25118
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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.

	Recommended Concentration	Sample
Western Blot	0.2 µg/mL	See Below
Flow Cytometry	2.5 µg/10 ⁶ cells	See Below
Immunohistochemistry	5-15 µg/mL	Perfusion fixed frozen sections of mouse intestine
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Agonist Activity	Measured in a cytotoxicity assay using L-929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. The ED ₅₀ for this effect is typically 0.05-0.15 µg/mL.	

DATA



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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 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, TNFRSF1A and CD120a) is a type I transmembrane protein that belongs to the TNF receptor superfamily (1, 2). TNF RI is widely expressed and is present on the cell surface as a trimer of 55 kDa subunits. It serves as a receptor for both TNF- α and TNF- β /lymphotoxin. Each subunit contains four TNF- α trimer-binding cysteine-rich domains (CRD) in its extracellular domain (ECD) (1-6). TNF- α binding to TNF RI induces the sequestration of TNFRI in lipid rafts, where it activates NF κ B and is cleaved by ADAM-17/TACE (7, 8). Release of the 28-34 kDa TNF RI ECD occurs constitutively, and in response to products of pathogens such as LPS, CpG DNA or *S. aureus* protein A (1, 7-12). Full-length TNF RI may also be released in exosome-like vesicles (12). Such release helps to resolve inflammatory reactions as it down-regulates cell surface TNF RI and provides soluble TNF RI to bind TNF- α (6, 13, 14). Exclusion from lipid rafts causes endocytosis of TNF RI complexes and induces apoptosis (7, 15). Although there is a second receptor for TNF- α (TNF R2), TNF RI is thought to mediate most of the cellular effects of TNF- α (3). TNF RI is essential for proper development of lymph node germinal centers and Peyer's patches, and for combating intracellular pathogens such as *Listeria monocytogenes* (1-3). Mouse TNF RI is a 454 amino acid (aa) protein that contains a 21 aa signal sequence and a 191 aa ECD with a PLAD domain (6). This mediates constitutive trimer formation. The PLAD domain is followed by four CRDs, a 23 aa transmembrane domain, and a 219 aa cytoplasmic sequence that contains a neutral sphingomyelinase activation domain and a death domain (16). 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; and it shows 23% aa identity with the ECD of TNF RII.

References:

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