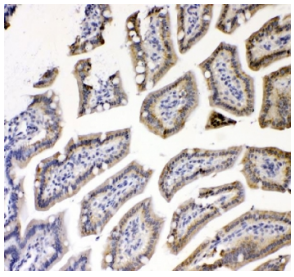
TNF Receptor 1 Antibody / TNFRSF1A Polyclonal Antibody (RQ4614)

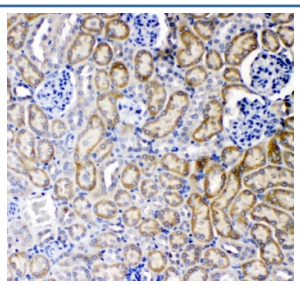
Catalog No.	Formulation	Size
RQ4614	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

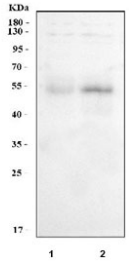
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P19438
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml ELISA (Capture): 1-5ug/ml (recombinant human protein)
Limitations	This TNF Receptor 1 Antibody / TNFRSF1A Polyclonal Antibody is available for research use only.



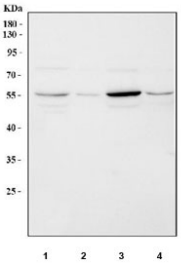
TNF Receptor 1 Antibody Immunohistochemistry. IHC staining of FFPE mouse colon tissue with TNF Receptor antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



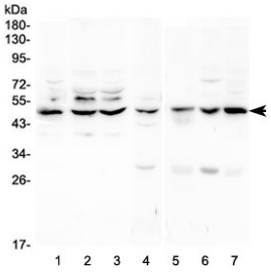
IHC staining of FFPE mouse kidney tissue with TNF Receptor 1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



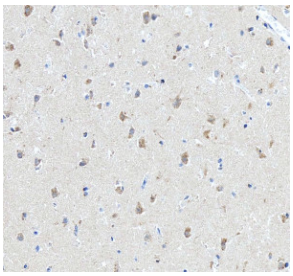
TNF Receptor 1 Antibody WB. Western blot testing of human 1) HeLa and 2) A549 cell lysate with TNF Receptor antibody. Predicted molecular weight ~51 kDa.



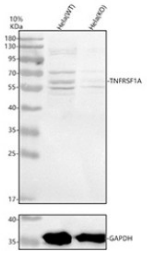
Western blot testing of 1) rat brain, 2) rat lung, 3) mouse brain and 4) mouse lung tissue lysate with TNF Receptor 1 antibody. Predicted molecular weight ~51 kDa.



Western blot testing of 1) human HeLa, 2) human K562, 3) human Caco-2, 4) rat liver, 5) mouse small intestine, 6) mouse liver and 7) mouse HEPA1-6 lysate with TNF Receptor 1 antibody at 0.5ug/ml. Predicted molecular weight ~51 kDa.



TNF Receptor 1 Antibody IHC in Human Brain Tissue. Immunohistochemical staining of formalin-fixed, paraffin-embedded human brain tissue using the TNFRSF1A Polyclonal Antibody at 2 ug/ml. Brown DAB staining is observed in scattered neuronal cell bodies, with predominantly cytoplasmic immunoreactivity and variable staining intensity. The surrounding neuropil exhibits comparatively weak, diffuse staining, while nuclei are largely negative. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0), followed by blocking with 10% goat serum. The primary antibody was incubated overnight at 4Â°C, and detection was performed using an HRP-conjugated secondary antibody with DAB chromogen.



TNF Receptor 1 Antibody WB in HeLa Wild-Type and TNFRSF1A Knockout Cells. Western blot analysis of human HeLa wild-type (lane 1) and TNFRSF1A knockout (lane 2) whole-cell lysates using the TNFRSF1A Polyclonal Antibody. Multiple immunoreactive bands are observed between approximately 55-70 kDa in wild-type cells, with reduced signal in the knockout sample, particularly near 55-60 kDa. Residual bands remain visible in the knockout lane. The predicted molecular weight of TNFR1 is approximately 50 kDa, although glycosylation may contribute to higher apparent molecular weights. Samples were loaded at 30 ug per lane and separated by 10% SDS-PAGE under reducing conditions. The primary antibody was used at 0.5 ug/ml, with GAPDH serving as the loading control.

Description

TNF Receptor 1 Antibody / TNFRSF1A Polyclonal Antibody recognizes tumor necrosis factor receptor superfamily member 1A (TNFRSF1A), also known as TNFR1, CD120a, or p55 TNF receptor. TNFR1 is a widely expressed transmembrane receptor that mediates cellular responses to tumor necrosis factor alpha (TNF alpha), a cytokine involved in inflammation, immune defense, and tissue homeostasis. As a member of the TNF receptor superfamily, TNFR1

contains extracellular cysteine-rich domains responsible for ligand binding and an intracellular death domain that coordinates signaling pathways controlling inflammation, cell survival, and programmed cell death.

TNF alpha binding promotes the assembly of a membrane-associated signaling complex containing TRADD, RIPK1, TRAF2, and cellular inhibitor of apoptosis proteins. This complex facilitates activation of NF-kappaB and MAPK signaling pathways, leading to the expression of inflammatory mediators, cytokines, chemokines, and proteins that regulate cellular survival. Ubiquitination of RIPK1 plays an important role in organizing these signaling events, while deubiquitinating enzymes and other regulatory proteins influence the duration and outcome of receptor activation.

TNFR1 signaling can also initiate programmed cell death when cellular conditions favor the formation of cytoplasmic death-inducing complexes. Recruitment of FADD and activation of caspase-8 promote extrinsic apoptosis, whereas inhibition of caspase-8 can permit RIPK1- and RIPK3-dependent necroptosis through activation of MLKL. Receptor internalization, proteolytic shedding, and intracellular trafficking further influence TNFR1 activity. Cleavage of the extracellular domain generates soluble TNFR1, which can bind TNF alpha and modulate cytokine availability and inflammatory signaling.

TNFRSF1A has been implicated in autoimmune disease, chronic inflammation, neurodegeneration, and tissue injury. Pathogenic variants in the TNFRSF1A gene cause TNF receptor-associated periodic syndrome (TRAPS), an inherited autoinflammatory disorder characterized by recurrent inflammatory episodes. TNFR1 also contributes to tumor biology, where TNF alpha signaling may influence cancer cell survival, inflammatory responses, and interactions within the tumor microenvironment. Research involving TNF Receptor 1 Antibody can help characterize receptor expression in relation to cytokine-mediated inflammation, NF-kappaB signaling, apoptotic regulation, and necroptotic cell death.

Explore our TNFR1 Antibody (R32696) for additional research into TNF receptor signaling, inflammation, and programmed cell death, with Western blot validation using HeLa wild-type and TNFRSF1A knockout cell lysates.

Application Notes

Optimal dilution of the TNF Receptor 1 Antibody / TNFRSF1A Polyclonal Antibody should be determined by the researcher.

Immunogen

Amino acids I22-T211 from the human protein were used as the immunogen for the TNF Receptor antibody.

Storage

After reconstitution, the TNF Receptor antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

TNFR1 antibody, TNFRSF1A antibody, TNF Receptor I antibody, Tumor Necrosis Factor Receptor 1 antibody, CD120a antibody, p55 TNF Receptor antibody, TNFR55 antibody, TNF-R1 antibody, TNFRI antibody, TNF Receptor Type 1 antibody

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