

# PRODUCT INFORMATION



## TNFRSF1A/CD120a Extracellular Domain (human, recombinant)

Item No. 44198

### Overview and Properties

**Synonyms:** CD120a, TNFR1, TNF-R1, TNFR-I, Tumor Necrosis Factor Receptor 1, Tumor Necrosis Factor Receptor Superfamily Member 1A

**Source:** Active recombinant human C-terminal His-tagged TNFRSF1A extracellular domain expressed in HEK293 cells

**Amino Acids:** 22-211

**Uniprot No.:** P19438

**Molecular Weight:** 22.7 kDa

**Storage:** -80°C (as supplied)

**Stability:** ≥1 year

**Purity:** ≥92% estimated by SDS-PAGE

**Supplied in:** Lyophilized from sterile PBS, pH 7.4

**Endotoxin Testing:** <1.0 EU/μg, determined by the LAL endotoxin assay

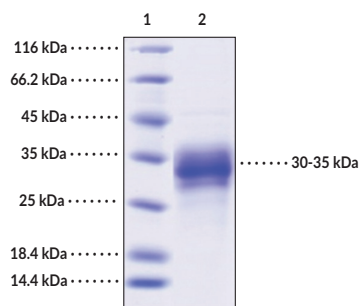
**Protein Concentration:** *batch specific*

**Activity:** *batch specific*

**Specific Activity:** *batch specific*

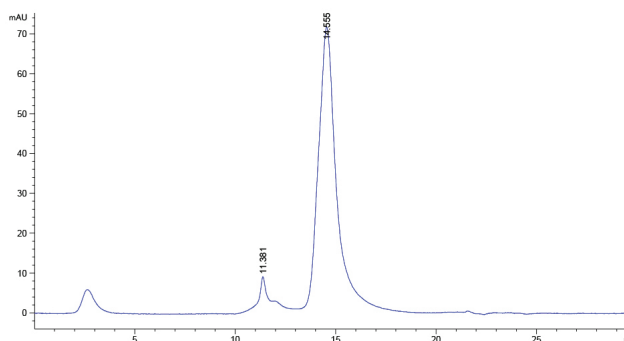
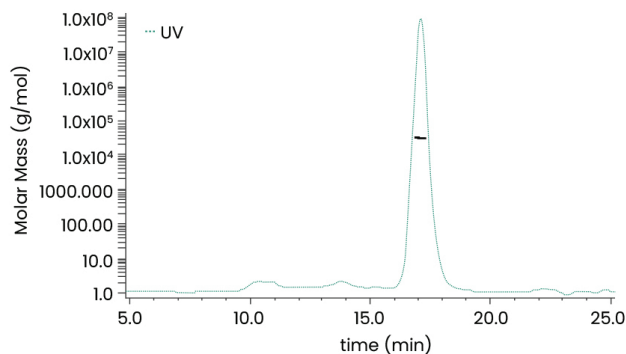
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Images



Lane 1: MW Markers  
Lane 2: TNFRSF1A/CD120a Extracellular Domain

**SDS-PAGE Analysis of TNFRSF1A/CD120a Extracellular Domain.** This protein has a calculated molecular weight of 22.7 kDa. It has an apparent molecular weight of approximately 30-35 kDa by SDS-PAGE under reducing conditions.



**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
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**CAYMAN CHEMICAL**  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

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## Description

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Tumor necrosis factor receptor superfamily member 1A (TNFRSF1A), also known as CD120a and tumor necrosis factor receptor 1 (TNFR1), is a transmembrane receptor with roles in inflammatory immune responses.<sup>1</sup> It is composed of an extracellular domain that contains four cysteine-rich domains (CRD1-4), a transmembrane domain, and an intracellular domain comprising a neutral sphingomyelinase domain, a TNFR1 internalization domain, and an AIP-binding domain, all of which have roles in signal complex assembly. TNFRSF1A is ubiquitously expressed and localized to the plasma membrane.<sup>1,2</sup> Binding of TNF- $\alpha$  to TNFRSF1A induces receptor activation and induction of pro-apoptotic and pro-inflammatory signaling pathways. *Tnfrsf1a*<sup>-/-</sup> increases mortality and parasite burden and reduces serum levels of IgG1 in a mouse model of *N. caninum* infection.<sup>3</sup> Heterozygous mutations in *TNFRSF1A* are associated with tumor necrosis factor receptor-associated periodic syndrome (TRAPS), an autosomal dominant autoinflammatory syndrome.<sup>4</sup> Cayman's TNFRSF1A/CD120a Extracellular Domain (human, recombinant) protein can be used for binding assay and Western blot (WB) applications. This protein consists of 201 amino acids, has a calculated molecular weight of 22.7 kDa, and a predicted N-terminus of Ile22 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 30-35 kDa due to glycosylation.

## References

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1. Li, Y., Ye, R., Lin, J., et al. Exploring TNFR1: From discovery to targeted therapy development. *J. Transl. Med.* **23(1)**, 71 (2025).
2. Zhang, N., Wang, Z., and Zhao, Y. Selective inhibition of Tumor necrosis factor receptor-1 (TNFR1) for the treatment of autoimmune diseases. *Cytokine Growth Factor Rev.* **55**, 80-85 (2020).
3. Ferreira França, F.B., Silva, M.V., Silva, M.F., et al. TNF-TNFR1 signaling enhances the protection against *Neospora caninum* infection. *Front Cell. Infect. Microbiol.* **11**, 789398 (2022).
4. Cudrici, C., Deutch, N., and Aksentijevich, I. Revisiting TNF receptor-associated periodic syndrome (TRAPS): Current perspectives. *Int. J. Mol. Sci.* **21(9)**, 3263 (2020).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM