

Fraction 1 Capsular Antigen (F1) from *Yersinia pestis*, Recombinant from *Escherichia coli*

Catalog No. NR-44223

This reagent is the tangible property of the U.S. Government.

Product Description:

NR-44223 is a recombinant form of the *Yersinia pestis* (*Y. pestis*) fraction 1 capsular antigen (F1). The precursor recombinant protein lacking the native signal sequence but including an N-terminal hexa-histidine tag and a thrombin cleavage site was expressed in *Escherichia coli* and purified by nickel affinity chromatography. Treatment with immobilized bovine thrombin resulted in removal of the N-terminal hexa-histidine tag and the thrombin-cleaved protein was further purified by anion exchange chromatography and another round of nickel affinity chromatography to remove the cleaved tag. The final protein contains amino acid residues 22 to 170 of F1 from *Y. pestis* and four non-F1 residues at the amino terminus.

Lot: 70046227

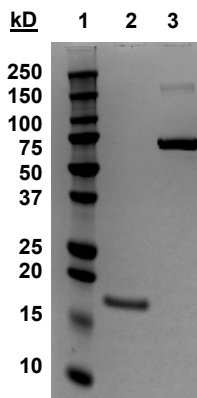
Manufacturing Date: 18NOV2021

TEST	SPECIFICATIONS	RESULTS
Appearance	Clear and colorless	Clear and colorless
SDS-PAGE Analysis	Protein band of interest represents > 90% of total staining intensity	Dominant band of ~ 18 kDa accounts for >97% of total staining intensity (Figure 1)
Identification by Mass Spectrometry	Measured mass within 5% of theoretical value (15975 daltons)	Measured mass within 0.04% of theoretical value (15968.48 daltons)
Identification by Western Blot Analysis Monoclonal anti- <i>Yersinia pestis</i> F1 Monoclonal anti-histidine tag	Reactive Non-reactive	Reactive (Figure 2) ¹ Non-reactive (Figure 3) ²
Concentration by Bicinchoninic Acid Assay Bovine Serum Albumin (standard)	Report results	0.663 mg per mL
Final Product Quantity per vial Volume per vial	Report results Report results	238.7 µg 360 µL
Endotoxin Content Limulus Amoebocyte Lysate Assay	< 100 EU per mg	< 7.54 EU per mg
Filtration	0.2 µm sterile-filtered	0.2 µm sterile-filtered

¹Using a 1:1000 dilution of mouse monoclonal anti-*Yersinia pestis* F1 (Santa Cruz Biotechnology SC-52303) as primary antibody and a 1:1000 dilution of HRP-conjugated goat anti-mouse IgG (R&D Systems HAF007) as secondary antibody

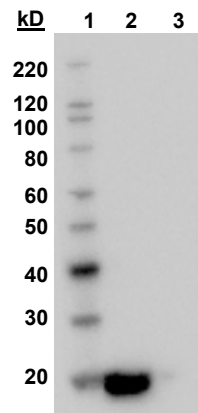
²Using a 1:1000 dilution of mouse monoclonal anti-histidine tag (Takara 631212) as primary antibody and a 1:1000 dilution of HRP-conjugated goat anti-mouse IgG (R&D Systems HAF007) as secondary antibody

Figure 1: SDS-PAGE Analysis



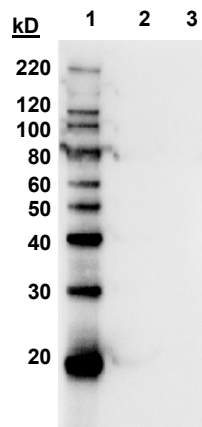
Lane 1: Precision Plus Protein™ Standard
Lane 2: NR-44223 (1 µg)
Lane 3: BSA (1 µg)

Figure 2: Western Blot with Monoclonal Anti-*Yersinia pestis* F1



Lane 1: MagicMark™ XP Protein Standard
 Lane 2: NR-44223 (1 µg)
 Lane 3: BSA (1 µg)

Figure 3: Western Blot with Monoclonal Anti-Histidine Tag



Lane 1: MagicMark™ XP Protein Standard
 Lane 2: NR-44223 (1 µg)
 Lane 3: BSA (1 µg)

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