

Rev05  
Update: Dec,13,2022

**DATASHEET**

# GenCRISPR™ FnCpf1 Antibody (14H3), mAb, Mouse

Cat. No.: A01958

## Overview

<b>Specificity</b>	The product is specific for Francisella tularensis subsp. novicida U112 Cpf1. This antibody binds with recombinant Francisella tularensis subsp. novicida U112 Cpf1 protein in ELISA and Endogenous overexpressed Francisella tularensis subsp. novicida U112 Cpf1 in immunofluorescence, western blot.
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Recombinant Francisella tularensis subsp. novicida U112 Cpf1 (FnCpf1)
<b>Conjugate</b>	Unconjugated

## Applications

Working concentrations for specific applications should be determined by the investigators. The appropriate concentration may be affected by secondary antibody affinity, antigen concentration, the sensitivity of the method of detection, temperature, the length of the incubations, and other factors. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

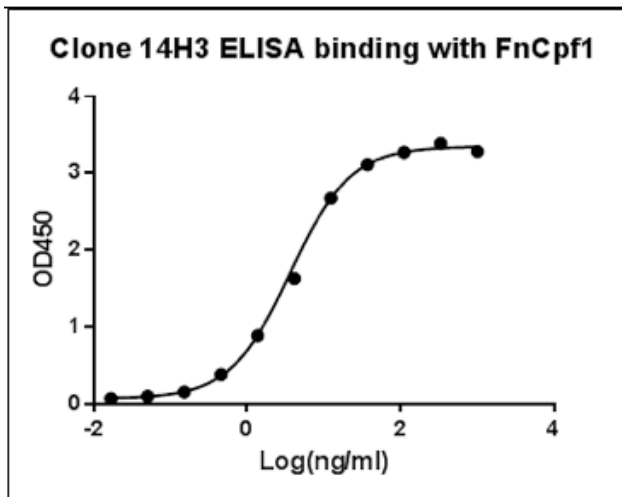
<b>Application</b>	<b>Recommended Usage</b>
ELISA	0.005-1 µg/ml
Immunocytochemistry/Immunofluorescence (ICC/IF)	0.2-1 µg/ml
Western Blot	1 µg/ml

## Properties

<b>Form</b>	Lyophilized
<b>Storage Buffer</b>	lyophilized with PBS, pH 7.4, contains 0.02% sodium azide.
<b>Reconstitution</b>	Reconstitute the lyophilized powder with deionized water (or equivalent) to an final concentration of 0.5 mg/mL.

<b>Storage Instructions</b>	The lyophilized product remains stable up to 1 year at -20 °C from date of receipt. Upon reconstitution, it can be stored for 2-3 weeks at 2-8 °C or for up to 12 months at -20 °C or below. Avoid freeze/thaw cycles.
<b>Purification</b>	Protein A affinity column
<b>Isotype</b>	Mouse IgG2b, $\kappa$
<b>Clonality</b>	Monoclonal
<b>Clone ID</b>	14H3
<b>Note</b>	GenScript can customize this product per customer's request including product size, buffer components, etc.

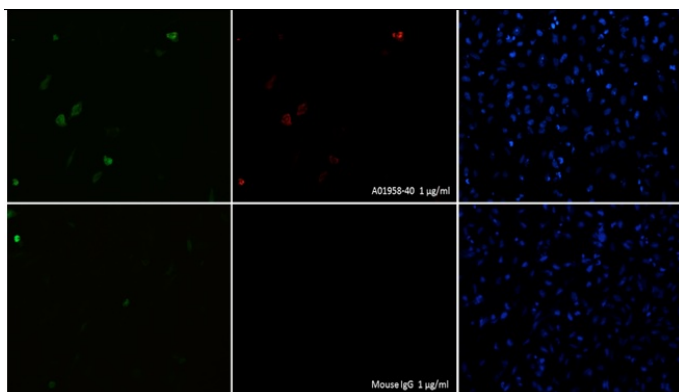
## Examples



ELISA binding of GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40) with recombinant Francisella tularensis subsp. novicida U112 Cpf1 protein.

Coating antigen: FnCpf1, 1  $\mu$ g/ml.

FnCpf1 antibody dilution start from 1000 ng/ml,  $EC_{50}$ = 3.66 ng/ml.

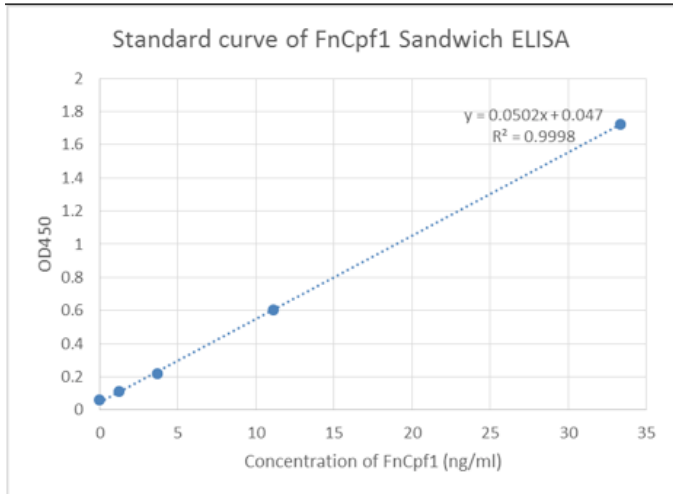


Immunofluorescence staining of GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40) with FnCpf1 in HeLa cells.

HeLa cells transfected with PX458 (FnCpf1(BB)-2A-GFP) (colored green) were fixed with 4% Poly-Formaldehyde (5min) and then blocked in 3% BSA 30min.

The cells were then incubated with GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40) at 1  $\mu$ g/ml or mouse IgG at 1  $\mu$ g/ml at room temperature for 2h, followed by a further incubation at 37°C for 1h with Goat Anti-Mouse IgG Antibody (H&L) [ifluor 555], pAb (GenScript) (colored red) at 5  $\mu$ g/ml.

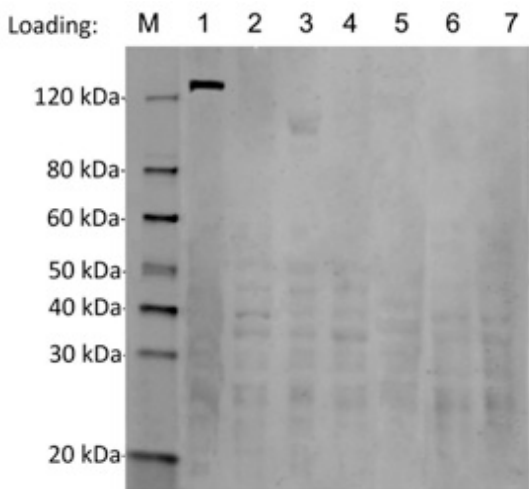
DAPI was used to stain the cell nuclei (colored blue) at a concentration of 0.2  $\mu$ g/ml for 2h at room temperature.



Standard curve of FnCpf1 Sandwich ELISA. The FnCpf1 Sandwich ELISA assay is developed by using GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40) and GenCRISPR™ FnCpf1 Antibody (9H6) (GenScript, A01957-40) as capture and detection antibody, respectively. These two antibodies recognize different epitopes.

In this ELISA assay, GenCRISPR™ FnCpf1 Antibody (9H6) (GenScript, A01957-40) was labeled with Biotin. GenScript can provide customized conjugation service for this product per customer's request.

The sensitivity is <1 ng/ml and the detection range is 0-30 ng/ml.



Western Blot analysis of HeLa transfected with various plasmids with GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40). The different HeLa transfected with various plasmids indicate the minimum cross reaction of the antibody.

Predicted band size: 152 kDa

Loading:

Lane 1: 50µg HeLa cell lysate transfected with FnCpf1(BB)-2A-GFP (A0Q7Q2, Francisella tularensis subsp. novicida (strain U112))

Lane 2: 50µg HeLa cell lysate transfected with pSpCas9(BB)-2A-GFP (PX458, Q99ZW2, Streptococcus pyogenes serotype M1)

Lane 3: 50µg HeLa cell lysate transfected with SaCas9(BB)-2A-GFP (J7RUA5, Staphylococcus aureus)

Lane 4: 50µg HeLa cell lysate transfected with AsCpf1(BB)-2A-GFP (U2UMQ6, Acidaminococcus sp. (strain BV3L6))

Lane 5: 50µg HeLa cell lysate transfected with StCas9(BB)-2A-GFP (G3ECR1, Streptococcus thermophilus)

Lane 6: 50µg HeLa cell lysate transfected with LbCpf1(BB)-2A-GFP (A0A182DWE3, Lachnospiraceae bacterium ND2006)

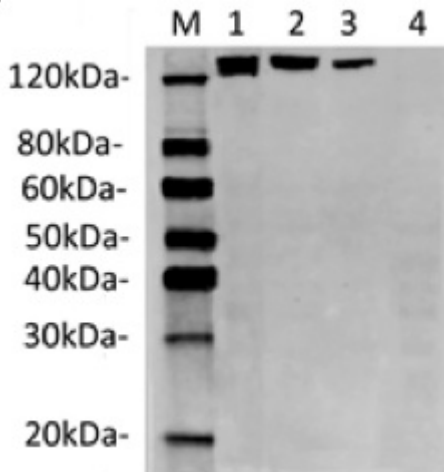
Lane 7: 50µg HeLa cell lysate (Non-transfected)

Primary Antibody:

GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40) 1 µg/ml

Secondary antibody:

Goat anti-Mouse IgG (H&L) [IRDye<sup>800</sup>], 0.125 µg/ml



Western Blot of HeLa transfected with PX458 (FnCpf1(BB)-2A-GFP) or untransfected cell lysates with GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40). The different concentration of cell lysates indicates the high affinity and sensitivity of the antibody.

Predicted band size: 152 kDa

Loading:

Lane 1: 50 µg HeLa transfected with FnCpf1(BB)-2A-GFP cell Lysate

Lane 2: 25 µg HeLa transfected with FnCpf1 (BB)-2A-GFP cell Lysate

Lane 3: 10 µg HeLa transfected with FnCpf1 (BB)-2A-GFP cell Lysate

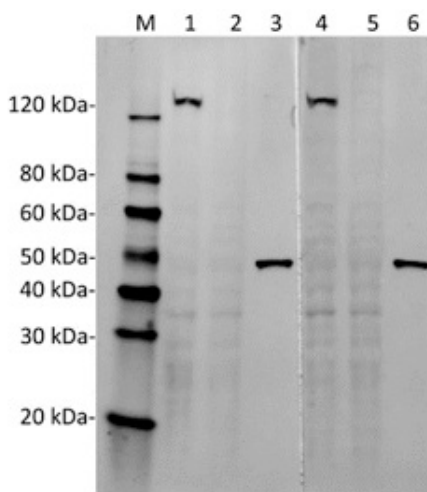
Lane 4: 50 µg Untransfected HeLa cell Lysate

Primary Antibody:

GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40) 1 µg/ml

Secondary Antibody:

Goat anti-Mouse IgG (H&L) [IRDye<sup>800</sup>], 0.125 µg/ml



Western Blot of HeLa transfected with PX458 (FnCpf1(BB)-2A-GFP) or untransfected cell lysates with two independent antibodies: GenCRISPR™ FnCpf1 Antibody (9H6) (GenScript, A01957-40) and GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40). The correlated pattern indicates the high specificity of these two antibodies.

Predicted band size: 152 kDa

Predicted band size of recombinant protein: 47.6 kDa

Loading:

Lane 1: 50 µg HeLa transfected with FnCpf1(BB)-2A-GFP cell Lysate

Lane 2: 50 µg Untransfected HeLa cell Lysate

Lane 3: 40 ng FnCpf1 recombinant protein

Lane 4: 50 µg HeLa transfected with FnCpf1(BB)-2A-GFP cell Lysate

Lane 5: 50 µg Untransfected HeLa cell Lysate

Lane 6: 40 ng FnCpf1 recombinant protein

Primary Antibody:

Lane 1~3: GenCRISPR™ FnCpf1 Antibody (9H6) (GenScript, A01957-40) 1 µg/ml

Lane 4~6: GenCRISPR™ FnCpf1 Antibody (14H3) (GenScript, A01958-40) 1 µg/ml

Secondary Antibody:

Goat anti-Mouse IgG (H&L) [IRDye<sup>800</sup>], 0.125 µg/ml

## Background

**Target Background :** Cpf1-containing CRISPR-Cas loci of *Francisella tularensis* subsp. *novicida* U112 encode functional defense systems capable of mediating plasmid interference in bacterial cells guided by the CRISPR spacers. Unlike Cas9 systems, Cpf1-containing CRISPR systems have three features: First, Cpf1-associated CRISPR arrays are processed into mature crRNAs without the requirement of an additional trans-activating crRNA (tracrRNA). Second, Cpf1-crRNA complexes efficiently cleave target DNA preceded by a short T-rich protospacer adjacent motif (PAM), in contrast to the G-rich PAM following the target DNA for Cas9 systems. Third, Cpf1 introduces a staggered DNA double stranded break with a 4 or 5-nt 5' overhang.

**Synonyms :** Mouse monoclonal to FnCpf1/Strain U112

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