

# CoV Protease Substrate-2 IF670

**FRET-based peptide substrate for detection of protease activity of coronaviruses**

Catalog #100-0511                      100 Tests  
100-0512                                  1000 Tests



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## Product Description

The coronavirus (CoV) main protease, also called 3CL<sup>pro</sup>, regulates the CoV replication complex and is a potential target for therapeutic applications. CoV Protease Substrate-2 IF670 is a fluorescence resonance energy transfer (FRET)-based peptide that can be cleaved by the 3CL<sup>pro</sup> CoV proteases. It consists of a 12-amino-acid sequence (VNSTLQSGLRKM) that also contains the Tide Quencher™ 5 (TQ5; quencher) and iFluor™ 670 (IF670; donor) fragments at the N- and C- termini, respectively. When the peptide substrate is intact, favorable energetic overlap of the IF670 excited state and the TQ5 absorption leads to efficient intramolecular fluorescence quenching of IF670 by the TQ5 fragment. Cleavage of the substrate by CoV proteases, however, dissociates the IF670 fragment from TQ5, restoring the fluorescence of the iFluor™ 670 moiety that is directly correlated to the CoV protease activity.

## Product Information

**Amino Acid Sequence:** VNSTLQSGLRKM

**Predicted Molecular Mass:** 3067.69 kDa

**Excitation Wavelength:** 656 nm

**Emission Wavelength:** 670 nm

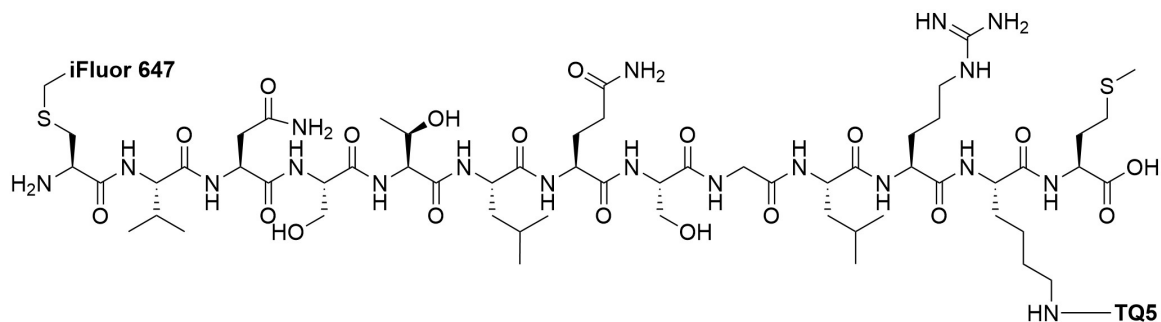
**Cutoff:** 660 nm

**Extinction Coefficient:** 250,000 cm<sup>-1</sup>M<sup>-1</sup>

**Purity:** ≥ 95%

**Formulation:** Lyophilized from a dimethylformamide (DMF) solution using vacuum drying.

**Structure:**



## Preparation and Storage

**Storage:** Product stable at -20°C. Protect from prolonged exposure to light.

**Stability:** Stable until expiry date (EXP) on label.

**Preparation:** Centrifuge vial before opening. Reconstitute the product in 25 µL (for Catalog #100-0511) or 250 µL (for Catalog #100-0512) of DMSO. Do not vortex. Prepare single-use aliquots and store at -20°C. Avoid repeated freeze-thaw cycles.

## Directions For Use

To make a working solution, dilute 1 in 200 in 20 mM Tris buffer (pH 7.5) or buffer of your choice. Use 50 µL of substrate solution per assay in a 96-well plate. Use as directed in protocol of choice.

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