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Data Sheet

3CL Protease (SARS-CoV-1 / SARS-CoV-2) Substrate

Catalog #: 79952

Description: The 3CL Protease Substrate is an internally quenched 14-mer fluorogenic (FRET) peptide (DABCYL-KTSAVLQSGFRKME-EDANS) for SARS family 3CL proteases, with a Km value of 17 µM and a kcat value of 1.9 s^{-1}.

When the donor (EDANS) and acceptor (DABCYL) fluorophores are in close proximity, the energy emitted from EDANS is quenched by DABCYL (intact substrate). Upon proteolysis by 3CL, the peptide substrate is cleaved between glutamine and serine by the 3CL protease to generate the highly fluorescent peptide fragment (SGFRKME-EDANS). EDANS has an excitation peak at 336 nm and an emission peak at 455 nm. The fluorescence intensity increases proportionally to the activity of 3CL. More information on the substrate, including MW and structure, can be found on our website (BPS Bioscience, #79952).

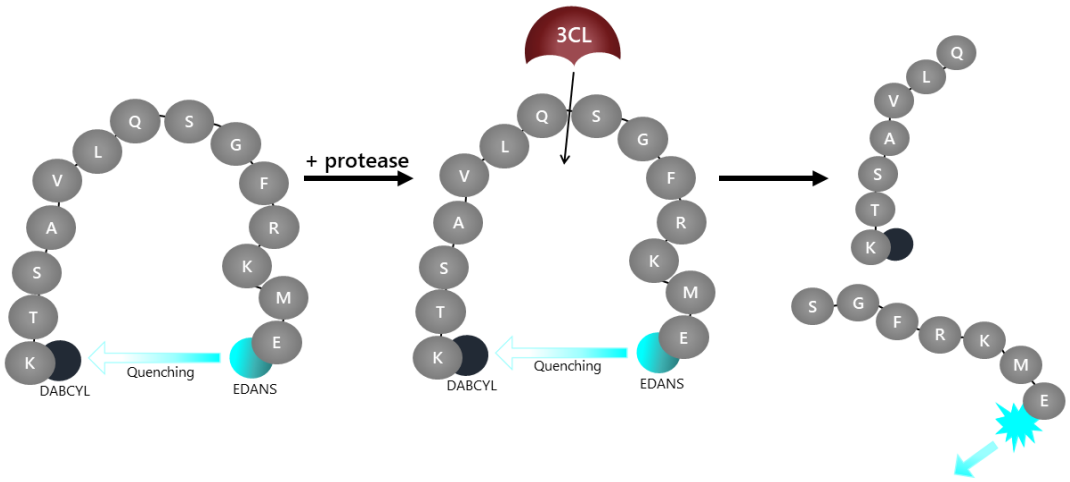

Figure: Illustration of the principle behind FRET-based 3CL protease assay

Fluorescence emitted by donor EDANS is quenched due to the proximity of the DABCYL acceptor in the intact peptide. The 3CL protease cleaves the 14-mer peptide between Q (glutamine) and S (serine), to generate the highly fluorescent peptide fragment SGFRKME-EDANS.

Synonyms: DABCYL-Lys-HCoV-SARS Replicase Polyprotein 1ab (3235-3246)-Glu-EDANS trifluoroacetate salt and DABCYL-KTSAVLQSGFRKME-EDANS

Molecular Formula: $C_{95}H_{141}N_{25}O_{24}S_2$

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Molecular Mass: 2081.45

Purity: >95% by HPLC

Concentration: 10 mM

CAS Registry No.: 730985-86-1

Supplied as: DMSO, dark red solution

Formulation: DMSO

Storage/Stability: At least 6 months at -80°C. Avoid freeze/thaw cycles. Protect from light.