Z-KKAG-AMC

Catalog number: 13554
Unit size: 1 mg

Product Details

Storage Conditions	Freeze (<-15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	341 nm
Emission Wavelength	441 nm

Applications

Coronaviruses (CoVs) can infect humans and multiple species of animals, causing a wide spectrum of diseases. In late 2019, a novel coronavirus, termed severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was determined as a cause for several cases of respiratory disease (Covid-19). Even though most infected patients only suffer from mild symptoms such as fever and cough associated with a good prognosis, the disease can progress into fatal cases of pneumonia and acute respiratory failure, especially in older males with comorbidities. Covid-19 rapidly spread worldwide. It has infected more than 4.3 million people and claimed more than three hundred thousand fatalities (as of May 14, 2020). Coronavirus is a single-stranded RNA positive-strand envelope type B coronavirus. Like the other two coronaviruses that cause SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome), SARS-CoV-2 encodes non-structural, structural, and accessory proteins. Non-structural proteins include 3-chymotrypsin-like protease (3CLpro), papain-like protease, helicase, and RNA-dependent RNA polymerase (RNA -dependent RNA polymerase (RdRp). Structural proteins include spike glycoproteins. Papain in coronavirus operates on more than 11 cleavage sites on the large polyprotein 1ab. Processing of polyproteins translated from viral RNA is essential, therefore, the main proteases are identified as an attractive drug targets for preventing virus imitation. Papain-like protease (PLpro) of coronaviruses carries out proteolytic maturation of non-structural proteins that play a role in replication of the virus and performs deubiquitination of host cell factors to scuttle antiviral responses. Z-KKAG-AMC is cleaved by papain-like proteases to give the highly fluorescent AMC product. The fluorescence intensity of released AMC is proportional to the protease activity.Z-KKAG-AMC might be used for screening and studying kinetics of PLpro inhibitors.

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