HCoV-OC43 Spike/S2 Protein (AVR40344, sf9, His)

Cat. No.:	HY-P76387
Synonyms:	Human coronAvirus (HCoV-OC43) Spike S2 Protein (ECD, His)
Species:	Virus
Source:	Sf9 insect cells
Accession:	AVR40344 (A766-P1304)
Gene ID:	/
Molecular Weight:	Approximately 60.7 kDa.

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 300 mM NaCl, 10% Glycerol, pH 7.0. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Seven human coronaviruses (HCoVs) have been so far identified, namely HCoV-229E, HCoV-OC43, HCoV-NL63, HCoV-HKU1, severe acute respiratory syndrome coronavirus (SARS-CoV), Middle East respiratory syndrome coronavirus (MERS-CoV) and the novel coronavirus (2019-nCoV, a.k.a. SARS-CoV-2). The M protein (25-30 kDa) is the most abundant structural protein and possesses three transmembrane domains. The short N-terminal ectodomain of the M protein is modified by O-linked glycosylation in HCoV-OC43 and some animal coronaviruses including mouse hepatitis virus (MHV) and bovine coronavirus (BCoV). The HCoV-OC43 ns12.9 protein is a recently identified viroporin that facilitates virion morphogenesis and pathogenesis. Infection with HCoV-OC43 activates IRE1 and induces X-box protein 1 (XBP1) mRNA splicing, thereby upregulating downstream UPR effector genes. Introduction of two point mutations (H183R and Y241H) into the S protein of HCoV-OC43 induces a higher degree of XBP1 mRNA splicing and results in a more pronounced apoptotic cell death. Overexpression of structural or accessory proteins of HCoV-OC43 also leads to downregulation of over 30 genes related to innate immune response, including genes encoding MAP kinases, toll-like receptors, interferons, interleukins, and signal transduction proteins. Similar to the PLPro of SARS-CoV and MERS-CoV, the PLP2 of HCoV-NL63 possesses deubiquitinating (DUB) activity[1].

Caution: Product has not been fully validated for medical applications. For research use only.

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