Product Data Sheet

Product Name:	CHIKV Mutant
Cat. No.:	GP25473
Batch No.:	1

Product Data

Purity	>98%	Source	
Phycical Appearance	solid	Shipping Condition	
Amino Acid Sequence	YEHVTVIPNTVGVPYKTLVNRPGYSPMVLEMELLSVTLEPTLSLDYITCEYKTVIPSPYVKCCGTAECKDKNLPDYSCKVFTGVYPFMWGGAYCFCDAENT		
Formulation	CHIKV Mutant protein solution in 1xD-PBS, pH7.4, 0.1% Thimerosal, 5mM EDTA, 1µg/ml of Leupeptin, Aprotinin and Pepstatin A.		

Introduction

Chikungunya is an infection caused by the chikungunya virus which is passed to humans by two species of mosquito of the genus Aedes: A. albopictus and A. aegypti. Animal reservoirs of the virus include monkeys, birds, cattle, and rodents. The features of the disease are a sudden onset of fever 2-4 days after exposure. The fever typically lasts 2-7 days, while the associated joint pains usually last weeks or months but sometimes years. The mortality rate is a little less than 1 in 1,000.The disease has occurred in outbreaks in Asia, Europe and the Americas since 2004. CHIKV is a single-stranded positive-sense RNA genome, 11,800 nts long which encodes 2 open reading frames. The nucleocapsid is tightly enveloped by a host-derived lipid bilayer (envelope) supporting the virus-encoded envelope proteins. 80 glycoprotein spikes are C-terminally anchored within the viral envelope. The structural polyprotein is translated from a viral sub genomic mRNA, while as the 5 structural proteins (capsid, E3, E2, 6K, E1) are translated as a single polyprotein, from which capsid (C) is cleaved off to encapsidate. The envelope polyprotein precursor E3-E2-6K-E1 is translocated to the endoplasmatic reticulum. Polyprotein is processed by host signalases, resulting in E3, E2 & E1 forming viral hetero-trimeric spikes. The viral spikes majorly containsE2 and E1 facilitate cell receptor recognition, cell entry thru pH-dependent endocytosis and support viral budding.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Avoid multiple freeze-thaw cycles.

Background

Recombinant Chikungunya Mutant (A226V) E1 produced in Insect Cells is a polypeptide chain containing amino acids 1-415, however at position 226 the Alanine of the wild-type CHIKV E1 gene was mutated to Valine. The molecular weight of the CHIKV Mutant is approximately 50kDa. The E1 protein is C-terminal part of E2-6K-E1 protein region. CHIKV Mutant is purified by proprietary chromatographic technique.

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