Recombinant Human RIPK3 Protein (S2-K518), His/GST tagged

Cat. No. RIPK3-1143H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human 8His-GST-TEV-GG-RIPK3(S2-K518 end) Protein was expressed in Insect cell.
Species	Human
Source	Insect Cells
ProteinLength	S2-K518
Description	Serine/threonine-protein kinase that activates necroptosis and apoptosis, two parallel forms of cell death. Necroptosis, a programmed cell death process in response to death-inducing TNF-alpha family members, is triggered by RIPK3 following activation by ZBP1. Activated RIPK3 forms a necrosis-inducing complex and mediates phosphorylation of MLKL, promoting MLKL localization to the plasma membrane and execution of programmed necrosis characterized by calcium influx and plasma membrane damage. In addition to TNF-induced necroptosis, necroptosis can also take place in the nucleus in response to orthomyxoviruses infection: following ZBP1 activation, which senses double-stranded Z-RNA structures, nuclear RIPK3 catalyzes phosphorylation and activation of MLKL, promoting disruption of the nuclear envelope and leakage of cellular DNA into the cytosol. Also regulates apoptosis: apoptosis depends on RIPK1, FADD and CASP8, and is independent of MLKL and RIPK3 kinase activity. Phosphorylates RIPK1: RIPK1 and RIPK3 undergo reciprocal auto- and trans-phosphorylation. In some cell types, also able to restrict viral replication by promoting cell death-independent responses. In response to Zika virus infection in

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	neurons, promotes a cell death-independent pathway that restricts viral replication: together with ZBP1, promotes a death-independent transcriptional program that modifies the cellular metabolism via up-regulation expression of the enzyme ACOD1/IRG1 and production of the metabolite itaconate. Itaconate inhibits the activity of succinate dehydrogenase, generating a metabolic state in neurons that suppresses replication of viral genomes. RIPK3 binds to and enhances the activity of three metabolic enzymes: GLUL, GLUD1, and PYGL. These metabolic enzymes may eventually stimulate the tricarboxylic acid cycle and oxidative phosphorylation, which could result in enhanced ROS production.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	RIPK3 receptor-interacting serine-threonine kinase 3 [Homo sapiens (human)]
Official Symbol	RIPK3

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Synonyms	RIPK3; receptor-interacting serine-threonine kinase 3; receptor-interacting serine/threonine-protein kinase 3; RIP3; RIP-3; RIP-like protein kinase 3; receptor interacting protein 3; receptor-interacting protein 3;
Gene ID	11035
mRNA Refseq	NM_006871
Protein Refseq	NP_006862
MIM	605817
UniProt ID	Q9Y572

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