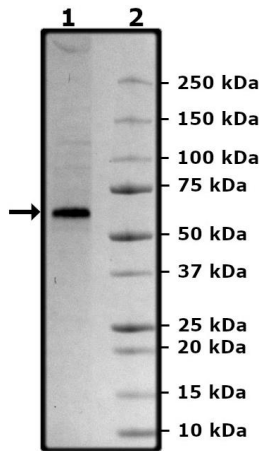


Product Information

Description:	Recombinant human CERK (ceramide kinase), encompassing amino acids 1-537(end). This construct contains a C-terminal FLAG-tag and two mutations of interest (K298G and K303G). This protein was affinity purified.
Background:	CERK (ceramide kinase), also known as acylsphingosine kinase, is a protein of the phosphotransferase family involved in ceramide phosphorylation in cell survival and proliferation and support of phagosome formation in leukocytes. It is found mostly in neutrophils, cerebrum granule cells and epithelial lung cells. The human gene includes a RARE (retinoic acid response element)-like transcription motif, which may function to promote expression of CERK in 5H-SY5Y cells when ATRA (all-trans retinoic acid) is present. The phosphorylation of ceramides produces C-1-P (ceramide-1-phosphate), which can help bring cPLA2 (cytosolic phospholipase A2) and CERK together and activate cPLA2. It was found that TPBC (triple-positive breast cancer) and TNBC (triple-negative breast cancer) present CERK dysfunction, and that inhibition of CERK expression or activity could slow down tumor growth. CERK may thus be a promising target in TNBC and TNPC, which currently have very limited therapeutic options.
Species:	Human
Construct:	CERK (K298G, K303G) (1-537(end)-FLAG)
Mutation:	K298G, K303G
Concentration:	0.40 mg/ml
Expression System:	Sf9
Purity:	85%
Format:	Aqueous buffer solution.
Formulated In:	20 mM Tris-HCl, pH 7.4, 104 mM NaCl, 2.2 mM KCl, 20% glycerol, 3 mM DTT, and 80 µg/ml FLAG peptide
MW:	61 kDa
Genbank Accession:	NM_022766
Stability:	At least 6 months at -80°C.
Storage:	-80°C
Instructions for Use:	Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.
Assay Conditions:	CERK activity was measured at 37°C for 25 minutes in 20 mM HEPES, pH 7.2, 80 mM KCl, 3 mM CaCl ₂ , 10 mM MgCl ₂ , 2 mM DTT, and 5 µM ATP, using a beta-Octylglucoside mixed micellar assay with 100 µM CERK Substrate (BPS Bioscience #40618). ATP reduction was detected using Kinase-Glo [®] Luminescent Kinase kit (Promega V6711).
Applications:	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

Quality Control Data

4-20% SDS-PAGE Coomassie Staining



CERK (K298G, K303G) Activity

