

## **Ceramide Kinase. Rabbit Polyclonal Antibody Human**

Ceramide kinase, Acylsphingosine kinase, hCERK, Lipid kinase 4, LK4,

### **BACKGROUND**

Sphingolipids, in addition to being structural components of membranes, regulate cell-cell and cell-substrate interactions, proliferation, and differentiation. Members of this diverse group of lipids have emerged as a novel class of signaling molecules that also regulate phagocytosis. The mechanisms by which sphingolipids exert these effects remain incompletely defined. More than a decade ago, it was found that ceramide can be phosphorylated to ceramide 1-phosphate (C1P). Ceramide kinase (CERK) and its phosphorylated product ceramide 1-phosphate (C1P) are central players in inflammation and cancer. The product of CERK activity, ceramide 1-phosphate (C1P), has been reported to have mitogenic effects. C1P is a direct activator of cytosolic phospholipase A2 and is involved in arachidonic acid release. CERK is a mediator of Ca<sup>2+</sup>-dependent degranulation in mast cells. In both arachidonic acid release and mast cell degranulation, the intracellular elevation of Ca<sup>2+</sup> is a central event that acts as a regulatory mechanism of CERK activity. C1P is found in brain synaptic vesicles, and plays a role in regulating the secretion of neurotransmitters. CERK activity exists in HL-60 cells where the C1P is derived from ceramide released from sphingomyelin. The expressed kinase has specific ceramide phosphorylating activity. CERKs exist in a variety of cellular organisms, including plants, nematodes, insects, and vertebrates.

### **IMMUNOGEN**

Synthetic peptide derived from human ceramide kinase protein

### **COMMENTS**

Antibody can be used for Western blotting (1–10 µg/ml). Can also be used for ELISA. Optimal concentration should be evaluated by serial dilutions.

### **STORAGE**

Product should be stored at -20°C. Aliquot to avoid freeze/thaw cycles

### **STABILITY**

Products are stable for one year from purchase when stored properly

### **ORDERING INFORMATION**

**CATALOG NUMBER**  
X1715P

**SIZE**  
100 µg

**FORM**  
Unconjugated

**HOST/CLONE**  
Rabbit

**FORMULATION**  
Provided as solution in phosphate buffered saline with 0.08% sodium azide

**CONCENTRATION**  
1 mg/ml

**ISOTYPE**  
N/A

**APPLICATIONS**  
Western blot, ELISA

### **SPECIES REACTIVITY**

Human

**For research use only. Not for use in human diagnostics or therapeutics.**

**POSITIVE CONTROL/TISSUE EXPRESSION**

High level expression in heart, brain, skeletal muscle, kidney and liver

**SHIP CONDITIONS**

Ship at ambient temperature, freeze upon arrival

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7. Kim TJ, Mitsutake S, Kato M, Igarashi Y. 'The leucine 10 residue in the pleckstrin homology domain of ceramide kinase is crucial for its catalytic activity.' *FEBS Lett.* 2005 Aug 15;579(20):4383–8.

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Exalpha Biologicals, Inc. 5 Clock Tower Place, Suite 255 Maynard, MA 01754  
Tel: 800.395.1137 Fax: 866.924.5100 www.exalpha.com info@exalpha.com

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