Choline Kinase (Crude Enzyme)

Cat. No. NATE-1825

Lot. No. (See product label)

Introduction

Description Choline kinase (also known as CK,ChoK and choline phosphokinase) is an enzyme which catalyzes the first reaction in the choline pathway for phosphatidylcholine (PC) biosynthesis. This reaction involves the transfer of a phosphate group from adenosine triphosphate (ATP) to choline in order to form phosphocholine. Thus, the two substrates of this enzyme are ATP and choline, whereas its two products are adenosine diphosphate (ADP) and O-phosphocholine. Choline kinase requires magnesium ions (+2) as a cofactor for this reaction. This enzyme belongs to the family of transferases, specifically those transferring phosphorus-containing groups (phosphotransferases) with an alcohol group as acceptor. The first detailed investigation of the enzyme was conducted by McCamen in 1962, where it was shown that the brain is the richest source of the enzyme in mammalian tissue. A related enzyme, ethanolamine kinase, tends to co-purify with choline kinase leading to a suggestion that the two activities are mediated by two distinct active sites on a single protein. These enzymes participate in glycine, serine and threonine metabolism and glycerophospholipid metabolism. In mammalian cells, the enzyme exists as three isoforms: CKα-1,CKα-2 and CKβ. These isoforms are encoded by two separate genes, CHKA and CHKB and are only active in their homodimeric, heterodimeric and oligomeric forms. This product with the indicated enzyme activity was briefly purified from engineered E. coli.

Applications biotechnology; diagnostics; drug development; medicine

Synonyms Choline Kinase (phosphorylating); choline phosphokinase; choline-ethanolamine kinase

Product Information

Source E. coli

Appearance Clear to translucent yellow solution

EC Number EC 2.7.1.32

CAS No. 9026-67-9

Activity Undetermined

Reaction ATP + choline = ADP + phosphocholine

Notes Since this product needs to be freshly prepared, it will take about 2 weeks after you confirm the order. Each time of the freeze-thawing may cause partial inactivation. Therefore, it should be dispensed as required and stored at -20 ° C or lower. With the preservation of the extension of time, the enzyme activity will decline to a certain extent, so the product should be used as soon as possible. This product may have turbidity or precipitation in the production and preservation process, it can be mixed after melting and will not affect the normal use. This product is limited to scientific research use, shall not be used for clinical diagnosis or treatment, shall not be used for food or medicine, shall not be stored in ordinary residential. For your safety and health, please wear an experimental suit and wear disposable gloves.

Usage and Packaging

Package 100ml

Storage and Shipping Information

Storage at -20 °C or lower, for at least 1 month

Storage	at -20°C or lower, for at least 1 month.