CREATIVE BIOMART®
Assay Kit

Polo-like kinase 3 (Human) Assay/Inhibitor Screening Assay Kit

Product Information

Cat.No. Kit-0706

Product Overview

Polo-like kinase 3 (Human) Assay/Inhibitor Screening Assay Kit is a single-site, non-quantitative immunoassay for Plk3 activity. Plates are pre-coated with a substrate corresponding to recombinant Plk3 substrate-1, which contains a serine residue that is phosphorylated by Plk3 (Polo-like kinase 3). The detector antibody specifically detects only the phosphorylated form of "Plk3 substrate-1".

Description

The polo-like kinases (Plks) are a family of conserved serine/threonine kinases that play a critical role in the normal progression of cells through mitosis. The Plk3 serine/threonine kinase is a mammalian member of this family. In contract to Plk1, overexpression of Plk3 in mammalian cells suppresses proliferation and inhibits colony formation. Subsequent analysis demonstrated that overexpression of Plk3 induces chromatin condensation and apoptosis. One difference between Plk1 and the other two Plks is that both Plk2 and Plk3 were originally identified as immediate-early genes, whereas Plk1 does not share this characteristic. The Plks have been implicated in the genesis or progression of tumors. Plk3 has been suggested as a candidate tumor suppressor, and its expression is down-regulated or absent in lung carcinomas and squamous cell carcinomas of the head and neck.

Applications

1) Screening inhibitors or activators of Plk3.2) Detecting the effects of pharmacological agents on Plk3 activity.

Target Species

Human

Usage

For research use only (RUO)

Storage

• Upon receipt store the ATP at -20°C• Upon receipt store all other components at 4°C; Do not

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

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expose reagents to excessive light

Kit Components

Microplate: One microplate supplied ready to use, with 96 wells (12 strips of 8-wells) in a foil, zip-lock bag with a desiccant pack. Wells are coated with recombinant "Plk3 substrate-1" as substrate of Plk3.10X Wash Buffer: One 100 mL bottle of 10X buffer containing 2%Tween -20Kinase Buffer: One bottle containing 20 mL of 1X buffer; used for Kinase Reaction Buffer and sample dilution.20X ATP: Lyophilized ATP Na2 salt. Reconstitute contents of vial with 1.6 mL of H2O. Mix gently until dissolved. Final concentration of ATP should be 1.25 mM ATP. The ATP solution can be stored in small aliquots (e.g. 100 µL) at -20°C. The 1.25 mM ATP stock solution must be diluted to 62.5 µM in Kinase Reaction Buffer at the time of the assay.HRP conjugated Detection Antibody: One vial containing 12 mL of HRP (horseradish peroxidase) conjugated anti-phospho-"Plk3 substrate-1" (KS-3H4) antibody. Ready to use.Substrate Reagent: 12 mL of the chromogenic substrate, tetra-methylbenzidine (TMB). Ready to use.Stop Solution: One bottle supplied ready to use, containing 12 mL of 0.5 N H2SO4.