AURORA A (Human), Active

Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPA28-H

Lot No. U159-2
5 µg 0.1 µg/µl

Background:

AURORA A belongs to a multigenic family of mitotic serine/threonine kinases which are involved in the control of chromosome segregation. AURORA A is involved in centrosome separation, duplication and maturation as well as in bipolar spindle assembly and stability (1). AURORA A is expressed and active at the highest level during G2-M phase of the cell cycle. Overexpression of AURORA A has been found to be correlated with the grade of various human solid tumours. Ectopic AURORA A overexpression in any culture cell line leads to polyploidy and centrosome amplification (2).

Product Description:

Recombinant full-length human AURORA A was expressed by baculovirus in Sf9 cells using an N-terminal GST tag. The gene accession number is NM_003600.

Gene Aliases:

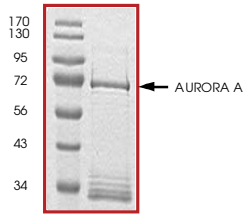
AURKA, AIK, ARK1, AURA, BTAK, STK6, STK7, STK15, AURORA2, MGC34538

Formulation:

Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 25% glycerol.

Purity & Molecular Weight:

The purity was determined to be >75% by densitometry. Approx. MW 72kDa.



Storage:

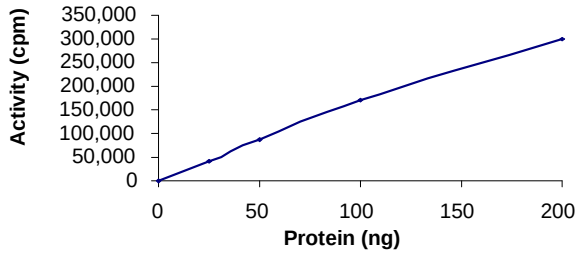
Store product at –70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

1 year at –70 °C from date of shipment.

Specific Activity:

The specific activity was determined to be 73 nmol /min/mg as per Activity Assay Protocol.



Activity Assay Protocol:

Assay activity of the kinase in a 25 µL reaction consisting of 5 µL of 5 X Kinase Assay Buffer, 5 µL of 1 mg/ml the Substrate Solution, 10 µL of diluted kinase and 5 µL of 250 µM ATP solution containing [gamma ^{32}P] ATP (0.167 µCi/µL). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20 µL of the reaction mixture onto phosphocellulose P81 paper. Air-dry the P81 paper and sequentially wash 4 times for approximately 10 minutes each in 1% phosphoric acid with constant gentle stirring. Count the P81 paper in a liquid scintillation counter.

Substrate Solution:

Myelin basic protein (MBP) diluted in distilled H_2O to a final concentration of 1mg/ml.

5 X Kinase Assay Buffer:

25mM MOPS pH 7.2, 12.5mM β-glycerol-phosphate, 25mM $MgC1_2$, 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

References:

1.Dutertre, S. et al: On the role of aurora-A in centrosome function. Oncogene. 2002 Sep 9;21(40):6175-83.

2.Katayama, H. et al: The Aurora kinases: role in cell transformation and tumorigenesis. Cancer Metastasis Rev. 2003 Dec;22(4):451-64.

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