Data Sheet (Cat.No.TMPY-01401)

TargetMol

Cyclin A1 Protein, Human, Recombinant (His)

General Information

Synonyms:	cyclin A1;CT146
Protein Construction:	A DNA sequence encoding the full length of human CCNA1 isoform a (NP_003905.1) (Met 1-Gln 465) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P78396-1
Molecular Weight:	54.6 kDa (predicted); 50 kDa (reducing conditions)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. Immobilized human His-CCNA1 at 10 μg/ml (100 μl/well) can bind biotinylated human CDK1 . The EC50 of biotinylated human CDK1 is 0.02-0.04 μg/ml. 2. Measured by its binding ability in a functional ELISA. Immobilized human His-CCNA1 at 10 μg/ml (100 μl/well) can bind biotinylated human CDK2-His . The EC50 of biotinylated human CDK2-His is 0.07-0.15 μg/ml.
Purity:	≥ 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Cyclin A1 is a member of the highly conserved cyclin family that is characterized by a dramatic periodicity in protein abundance, and belongs to the A-type cyclin subfamily. The mammalian A-type cyclin family consists of two members: cyclin A1 and cyclin A2. Different cyclins exhibit distinct expression. Cyclin A1 is expressed in mice exclusively in the germ cell lineage and high rate of cyclinA1 is found in human testis and certain myeloid leukaemia cells. Cyclin A1 is primarily function in the control of meiosis. It serves as regulator subunits binding to cyclin-dependent kinase 1 (Cdk1) and cyclin-dependent kinase 2 (Cdk2), which give two different kinase activities, one appearing in S phase, the other in G2. Through this, cyclin A1 operate the entry and progression in cell cycle. High frequency of cyclin A1 overexpression has been observed in acute myelocytic leukemias, especially those that are at the promyelocyte and myeloblast stages of development.

Reference

Yang R,et al.(1999) Functions of Cyclin A1 in the cell cycle and its interactions with transcription factor E2F-1 and the Rb family of proteins. Molecular and Cellular biology. 19 (3): 2400-7.
Yang R,et al.(1999) Cyclin A1 expression in leukemia and normal hematopoietic cells. Blood. 93 (6): 2067-74.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481