

## Cyclin A1 Protein, Human (SF9, His)

<b>Cat. No.:</b>	HY-P72962
<b>Synonyms:</b>	CCNA1; Cyclin A1; cyclin-A1
<b>Species:</b>	Human
<b>Source:</b>	Sf9 insect cells
<b>Accession:</b>	P78396 (M1-Q465)
<b>Gene ID:</b>	8900
<b>Molecular Weight:</b>	Approximately 50 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> METGFPAIMY   PGSFIGGWGE   EYLSWEGPGL   PDFVFQQQPV ESEAMHCSNP   KSGVVLATVA   RGPDACQILT   RAPLGQDPPQ RTVLGLLTAN   GQYRRTCQQG   ITRIRCYSGS   ENAFPPAGKK ALPDCGVQEP   PKQGFDIYMD   ELEQGDRDSC   SVREGMAFED VYEVDGTGLK   SDLHFLLDNFN   TVSPMLVDSS   LLSQSEDISS LGTDVINVTE   YAE EIYQYLR   EAEIRHRPKA   HYMKKQPDIT EGMRTILVDW   LVEVGEEYKL   RAETLYLAVN   FLDRFLSCMS VLRGKQLQLVG   TAAMLLASKY   EEIYPPEVDE   FVYITDDTYT KRQLLKMEHL   L LKVLAFDLT   VPTTNQFLLQ   YLRRQGVQVR TENLAKYVAE   LSLLEADPFL   KYLPSLIAAA   AFCLANYTVN KHFWPETLAA   FTGYSLS EIV   PCLSELHKAY   LDIPH RPQQA IREKYKASKY   LCVSLMEPPA   VLLLQ           </pre>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of 20 mM Tris, 500 mM NaCl, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

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**Background**

Cyclin A1 Protein emerges as a pivotal regulator in the intricate control of the cell cycle, exerting influence at the G1/S (start) and G2/M (mitosis) transitions. Its role extends beyond somatic cells, as it appears to be primarily involved in governing the germline meiotic cell cycle, with additional functions in the mitotic cell cycle of certain somatic cells. Through interactions with CDK2 and CDC2 protein kinases, Cyclin A1 forms a serine/threonine kinase holoenzyme complex, where the cyclin subunit confers substrate specificity. Notably, it does not bind CDK4 and CDK5 in vitro. The Cyclin A1-CDK2 complex interacts with transcription factor E2F-1 and RB proteins, underscoring its involvement in crucial regulatory pathways. Furthermore, it participates in complexes with CDK2, CABLES1, and CCNE1, indicating its multifaceted interactions within the cell cycle regulatory network. Interactions with INCA1 and KLHDC9 further highlight the intricate molecular associations that contribute to Cyclin A1's role in cell cycle regulation. Unraveling the specific mechanisms governing Cyclin A1's interactions and functions could provide valuable insights into its regulatory impact on both meiotic and mitotic cell cycles.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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