Rabbit anti-Phospho- CDC2 (pTyr^{15})

Synonym: Cell division control protein 2 (CDC2); Cell division protein kinase 2 (CDK2), CDK1, CDK3, MGC11195, CDC28A

ANTIGEN PREPARATION
A synthetic peptide surrounding to the epitope -GTYGV- with a phosphorylation site at Tyr15 of human CDC2 protein. This sequence is identical among human, mouse, rat, bovine and chicken species.

BACKGROUND
Cyclins and cyclin-dependent kinases (CDKs) control cell cycle progression by phosphorlating regulatory proteins. These cyclin-related proteins appear to affect cell structure and function independent of the cell cycle. Cyclins and CDKs have a role in the development and maintenance of cell- and tissue-restricted properties of differentiated cells. CDC2 (Cell Division Cycle 2), also known as CDK1 (Cyclin Dependent kinase 1), is a member of the CDK family of serine/threonin kinases. It is a highly conserved serine protein kinase that plays a key role in regulation of the cell cycle. The phosphorylation of CDC2 at Y15 and T14 during the G2 phase of the cell cycle inhibits CDC2 activity, while the dephosphorylation of Y15 and T14 by CDC25 phosphatase during the late G2 restores its activity.

PURIFICATION
The Rabbit IgG is purified by site-modified Epitope Affinity Purification.

SPECIFICITY
This antibody recognizes CDC2 (pY15) with a phosphorylated site at Tyrosine 15. It does not cross-react with non-phosphospecific peptide.

APPLICATIONS/SUGGESTED WORKING DILUTIONS

<table>
<thead>
<tr>
<th>Application</th>
<th>Dilution</th>
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<tbody>
<tr>
<td>Western Blot</td>
<td>0.1-1 µg/ml</td>
</tr>
<tr>
<td>ELISA</td>
<td>0.01-0.1 µg/ml</td>
</tr>
<tr>
<td>Immunoprecipitation</td>
<td>2-5 µg/ml</td>
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<tr>
<td>IHC</td>
<td>1:200</td>
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<tr>
<td>Flow cytometry</td>
<td>Not tested</td>
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</tbody>
</table>

MOLECULAR WEIGHT: 38 kDa

POSITIVE CONTROL: A431 cell lysate

CELLULAR LOCATION: Nuclear

Optimal dilutions should be determined by researchers for the specific applications.

REFERENCES
Shirwin M. Pockwinse, et al. Cell cycle independent interaction of CDC2 with the centrosome, which is associated with the nuclear matrix-intermediate filament scaffold. Proc Natl Acad Sci U S A. 1997 April 1; 94(7): 3022–3027.

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