Data Sheet (Cat.No.TMAY-01670)

TargetMol

Anti-Phospho-cdc2 (Tyr15) Antibody (2T187)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human; Species predicted to react based on 100% sequence homology: Mouse, Rat, Cynomolgus, Bovin, Chick
Conjugation:	Unconjugated
Clone:	2T187
Purification:	Protein A

Applications

Verified Activity:	1. Western blot analysis of extracts from serum-starved Hela, untreated (-) or treated with hydroxyurea (4mm, 24h; +), using Phospho-Cdc2 (Tyr15) Antibody, Rabbit MAb at 1:10000 dilution (upper) or Anti-CDK1/CDC2 Antibody, Rabbit PAb at 1:2000 dilution (lower). 2. Western blot analysis of extracts from serum-starved Hela, untreated (line A); treated with hydroxyurea (4mm, 24h, +) (line B); treated with hydroxyurea and λ-phosphatase (line C) using Phospho-Cdc2 (Tyr15) Antibody, Rabbit MAb at 1:10000 dilution.
Application:	WB
Recommended	WB: 1:5000-1:50000

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthetic peptide: residues around Tyr15 of the Human cdc2
Antigen Species:	Human
Synonyms:	CDKN1;CDC 2;CDC2;cdc2 (p-Y15);Phospho-cdc2 (Y15);p-cdc2 (Y15);p-cdc2 (Tyr15);cdc2 (p-Tyr15);P34CDC2;CDC28A

Research Background

CDC2, also known as CDK1, contains 1 protein kinase domain and belongs to the protein kinase superfamily, CMGC Ser/Thr protein kinase family, CDC2/CDKX subfamily. CDC2 is a catalytic subunit of the highly conserved protein kinase complex known as M-phase promoting factor (MPF), which is essential for G1/S and G2/M phase transitions of eukaryotic cell cycle. Mitotic cyclins stably associate with CDC2 and function as regulatory subunits. The kinase activity of CDK1 is controlled by cyclin accumulation and destruction through the cell cycle. The phosphorylation and dephosphorylation of CDC2 also play important regulatory roles in cell cycle control. It is required in higher cells for entry into S-phase and mitosis. CDC2 also is a cyclin-dependent kinase which displays CTD kinase activity and is required for RNA splicing. It has CTD kinase activity by hyperphosphorylating the C-terminal heptapeptide repeat domain (CTD) of the largest RNA polymerase II subunit RPB1, thereby acting as a key regulator of transcription elongation. CDK1 is required for RNA splicing, possibly by phosphorylating SRSF1/SF2. It is involved in regulation of MAP kinase activity, possibly leading to affect the response to estrogn inhibitors.

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