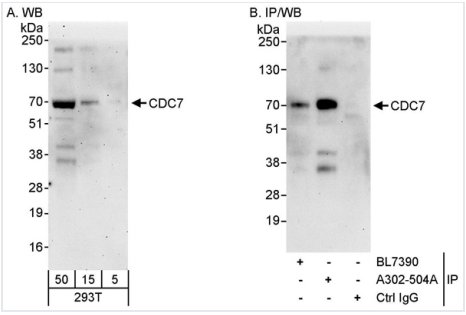
CDC7 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	CDC7, Polyclonal Antibody
Full Product Name	Rabbit anti-CDC7 Antibody, Affinity Purified
Product Gene Name	anti-CDC7 antibody
Product Synonym Names	cell division cycle 7-related protein kinase; huCDC7; Hsk1; epididymis secretory sperm binding protein; cell division cycle 7-like protein 1; cell division cycle 7 homolog; CDC7-related kinase; CDC7L1; CDC7 (cell division cycle 7, S. cerevisiae, homolog)-like 1; HsCDC7; Cell division cycle 7-related protein kinase; cell division cycle 7
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human
Form/Format	Liquid. Whole IgG. Tris-citrate/phosphate buffer, pH 7 to 8 containing 0.09% Sodium Azide
Purity/Purification	Antigen Affinity Purified
Concentration	1000ug/ml (lot specific)
Preparation and Storage	Store at 2-8 degree C Shelf Life: 1 year from date of receipt
Molecular Weight	63,888 Da
OMIM	603311
3D Structure	ModBase 3D Structure for O00311
Immunogen	Between 524 and C-terminus
Conjugation	Unconjugated
Product Categories/Family for anti-CDC7 antibody	Primary Antibodies
Applications Tested/Suitable for anti-CDC7 antibody	Western Blot (WB), Immunoprecipitation (IP)
Application Notes for anti-CDC7 antibody	WB: 1:2000-1:10,000 IP: 6ug/mg lysate
Related Product Information for anti-CDC7 antibody	Cell division cycle 7-related protein kinase 7 (CDC7) is critical for the activation and firing of replication origins during S-phase. Cdc7 kinase activity is activated and regulated by Dbf4. Substrates of CDC7 include the MCM (mini-chromosome maintenance) proteins, DNA polymerase alpha, Cdc45, Orc4, geminin and SV40 T-antigen. CDC7 has also been implicated to play a role in the DNA damage response. Alternative names for CDC7 include;CDC7L1, hsCDC7, huCDC7, and Hsk1.
Other Notes	Small volumes of anti-CDC7 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CDC7 purchase	MBS3902882 is an antibody targeting CDC7. Also known as Rabbit anti-CDC7 Antibody, Affinity Purified. Reactive in Human. Host: Rabbit.



Western Blot (WB) of anti-CDC7 antibody
Detection of human CDC7 by western blot and immunoprecipitation. Samples: Whole cell lysate (5, 15 and 50 ug for WB; 1 mg for IP, 20% of IP loaded) from HEK293T cells. Antibodies: Affinity purified rabbit anti-CDC7 antibody MBS3902882 used for WB at 0.1 ug/ml (A) and 1 ug/ml (B) and used for IP at 3 ug/mg lysate. CDC7 was also immunoprecipitated by rabbit anti-CDC7 antibody BL7390, which recognizes an upstream epitope. Detection: Chemiluminescence with exposure times of 3 minutes (A) and 30 seconds (B).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CDC7. It may not necessarily be applicable to this product.

NCBI GI #	4502715
NCBI GeneID	8317
NCBI Accession #	NP_003494.1
UniProt Primary Accession #	O00311
UniProt Secondary Accession #	O00558; Q5T5U5; D3DT31
UniProt Related Accession #	O00311
GenBank Nucleotide #	NM_003503.3
NCBI Official Full Name	cell division cycle 7-related protein kinase
NCBI Official Synonym Full Names	cell division cycle 7
NCBI Official Symbol	CDC7
NCBI Official Synonym Symbols	Hsk1; CDC7L1; HsCDC7; huCDC7
UniProt Protein Name	Cell division cycle 7-related protein kinase
Protein Family	Cell division control protein
UniProt Gene Name	CDC7
UniProt Synonym Gene Names	CDC7L1; CDC7-related kinase; HsCdc7; huCdc7
UniProt Entry Name	CDC7_HUMAN
NCBI Protein Information	cell division cycle 7-related protein kinase; CDC7-related kinase; cell division cycle 7 homolog; cell division cycle 7-like protein 1; CDC7 (cell division cycle 7, S. cerevisiae, homolog)-like 1
NCBI Summary for CDC7	This gene encodes a cell division cycle protein with kinase activity that is critical for the G1/S transition. The yeast homolog is also essential for initiation of DNA replication as cell division occurs. Overexpression of this gene product may be associated with neoplastic transformation for some tumors. Multiple alternatively spliced transcript variants that encode the same protein have been detected. [provided by RefSeq, Aug 2008]

UniProt Comments for CDC7	CDC7: an evolutionarily conserved serine/threonine protein kinase of the CDC7 family. Predominantly localized in the nucleus, it plays a pivotal role in linking cell cycle regulation to genome duplication, being essential for the firing of DNA replication origins. Plays an essential role in initiating DNA replication at replication origins by phosphorylating the MCM2 and MCM4 subunits of the MCM2-7 helicase complex. The human protein requires phosphorylation by CDK1 at T376 and binding to activator of S-phase kinase (ASK)/DBF4B to be fully activated. The interaction between Cdc7 and DBFK subunits facilitates ATP binding and substrate recognition by the Cdc7 kinase. Although CDC7 expression levels appear to be constant throughout the cell cycle, the expression levels of DBF4B is cell cycle-regulated. Thus, the CDC7 activity is activated during S phase in eukaryotes. The Cdc7/ DBF4B complex regulates initiation of DNA replication by phosphorylating chromatin-bound mini-chromosome maintenance protein 2 (MCM2). Impaired Cdc7 kinase activity leads to S-phase arrest. Plays a role in the TGF-beta regulation of smooth muscle cell (SMC) differentiation. Interacts with Smad3 to facilitate Smad3 binding to SMC marker promoter, leading to the activation of SMC marker gene transcription. Protein type: Protein kinase, Ser/Thr (non-receptor); Kinase, protein; EC 2.7.11.1; Protein kinase, Other; Other group; CDC7 family Chromosomal Location of Human Ortholog: 1p22 Cellular Component: microtubule cytoskeleton; nucleoplasm; intercellular bridge; cytoplasm; nucleus Molecular Function: protein serine/threonine kinase activity; protein binding; metal ion binding; kinase activity; ATP binding; protein kinase activity Biological Process: regulation of cell shape; peptidyl-serine phosphorylation; DNA replication initiation; cell division; positive regulation of cell proliferation; mitotic cell cycle; DNA replication; phagocytosis; double-strand break repair via break-induced replication; G1/S transition of mitotic cell cycle
Research Articles on CDC7	**1.** The interaction between Claspin and Cdc7 is not dependent on Cdc7 kinase activity, but Claspin interaction with the DNA helicase subunit Mcm2 is lost upon Cdc7 inhibition.
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