



CDC45 Recombinant Monoclonal Antibody

Product Code	CSB-RA005020A0HU
Abbreviation	Cell division control protein 45 homolog
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	O75419
Immunogen	A synthesized peptide derived from human CDC45
Species Reactivity	Human
Tested Applications	ELISA
Relevance	Required for initiation of chromosomal DNA replication.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Cell division control protein 45 homolog, PORC-PI-1, CDC45, CDC45L, CDC45L2, UNQ374/PRO710
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling
Gene Names	CDC45
Clone No.	4B4

Description

The CDC45 recombinant monoclonal antibody is generated using DNA recombinant technology and in vitro genetic manipulation. The process begins with the immunization of an animal using a synthesized peptide derived from human CDC45, followed by the isolation of B cells and subsequent selection of positive B cells. These selected B cells undergo screening and identification of single clones. The light and heavy chains of the CDC45 antibody are amplified through PCR and inserted into a plasmid vector to create a recombinant vector. This vector is then introduced into a host cell line for antibody expression. The CDC45 recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. It specifically recognizes human CDC45 protein and is particularly useful in ELISA.

The CDC45 is a member of the conserved pre-initiation complex (pre-IC) that forms at the origin of replication and helps to initiate DNA replication. Specifically, CDC45 binds to other proteins in the pre-IC, such as MCM2-7 and GINS, to form the active CMG helicase complex, which unwinds the double-



stranded DNA at the origin of replication, allowing other replication machinery to access the DNA and begin the process of copying the genetic material. CDC45 has also been implicated in other cellular processes, such as the DNA damage response and cell cycle regulation.