APE651Hu01 100μg
Active Minichromosome Maintenance Deficient 5 (MCM5)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Val331~Ile537
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 6.6
Predicted Molecular Mass: 25.7kDa
Accurate Molecular Mass: 26kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8ºC for one month.
Aliquot and store at -80ºC for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

VYEVISKSIA PSIFGGTDMK
KAIACLLFGG SRKRLPDGLT RRGDINLLML GDPGTAKSQL LKFVEKCSPI
GVYTSGKGSS AAGLTASVMR DPSSRNFIME GGAMVLADGG VVCIDEFDKM
REDDRVAIHE AMEQQTISIA KAGITTTLNS RCSVLAAANS VFGRWDETKG
EDNIDFMPTI LSRFDMIFIV KDEHNEERDV MLAKHVI

[ACTIVITY]

Minichromosome Maintenance Complex Component 5 (MCM5) is an essential eukaryotic protein and a critical component of the hexameric MCM complex (MCM2-7). This complex acts as the core replicative helicase, responsible for unwinding double-stranded DNA at replication forks during the S phase of the cell cycle. Similar to other MCM proteins, MCM5 contains conserved ATPase motifs that supply the mechanical force required for DNA unwinding. Its expression is tightly regulated throughout the cell cycle, with levels peaking during the G1/S phase transition. Notably, MCM5 has emerged as a valuable biomarker in cancer diagnostics: its aberrant expression and detection in bodily fluids such as urine often signal dysregulated cell proliferation and malignant transformation.Besides,Fas Associating Death Domain Containing Protein (FADD) has been identified as an interactor of MCM5, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human MCM5 and recombinant human FADD. Briefly, MCM5 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to FADD-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-MCM5 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were

aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human MCM5 and recombinant human FADD was shown in Figure 1, the EC50 for this effect is 0.30μg/mL..

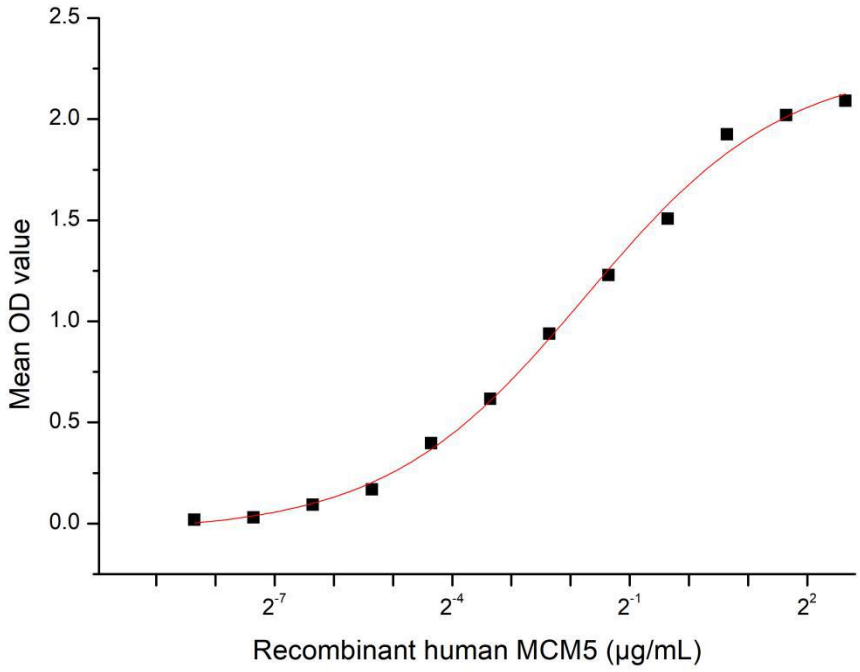

Figure 1. The binding activity of recombinant human MCM5 and recombinant human FADD

[IDENTIFICATION]

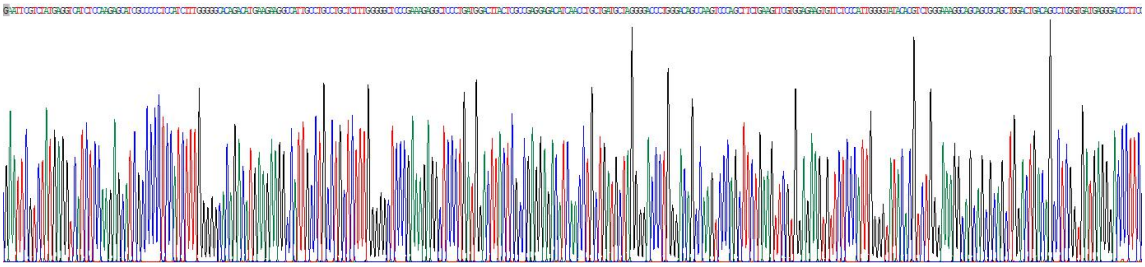

Figure 2. Gene Sequencing (extract)

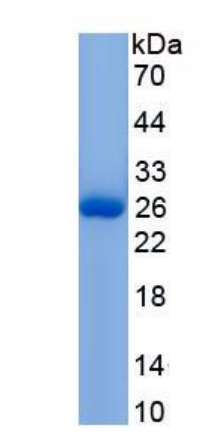

Figure 3. SDS-PAGE

Sample: Active recombinant MCM5, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.