APA752Hu01 100μg
Active Cluster Of Differentiation 38 (CD38)
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: Asp81~Ser298
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: 6.0
Predicted Molecular Mass: 28.8kDa
Accurate Molecular Mass: 29kDa 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]

DCQSVWDAFK GAFISKHPCN
ITEEDYQPLM KLGTQTVPCN KILLWSRIKD LAHQFTQVQR DMFTLEDTLL
GYLADDLTWC GEFNTSKINY QSCPDWRKDC SNNPVSVFWK TVSRRFAEAA
CDVVHVMLNG SRSKIFDKNS TFGSVEVHNL QPEKVQTLEA WVIHGGREDS
RDLCQDPTIK ELESIISKRN IQFSCKNIYR PDKFLQCVKN PEDSSCTS

[ACTIVITY]

Cluster of Differentiation 38 (CD38) is a multifunctional transmembrane glycoprotein widely expressed on immune cells and other tissues. It primarily functions as a key enzyme in nicotinamide adenine dinucleotide (NAD+) metabolism, catalyzing the synthesis and hydrolysis of cyclic ADP-ribose (cADPR), a crucial secondary messenger for intracellular calcium signaling. Beyond its enzymatic roles, CD38 also acts as a receptor involved in cell adhesion and signal transduction, playing a significant part in immune responses, inflammation, and even aging processes. Interestingly, CD38 can bind to and regulate Sirtuin 1 (SIRT1), a vital NAD+-dependent deacetylase, thereby influencing NAD+ availability and impacting SIRT1-mediated cellular processes like metabolism and stress resistance.To detect the activity of recombinant CD38 , a functional ELISA assay was performed to evaluate the interaction between recombinant human CD38 and recombinant mouse SIRT1.Briefly, CD38 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to SIRT1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CD38 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 CD38 and recombinant mouse SIRT1 was shown in Figure 1, the EC50 for this effect is 0.403μg/mL.

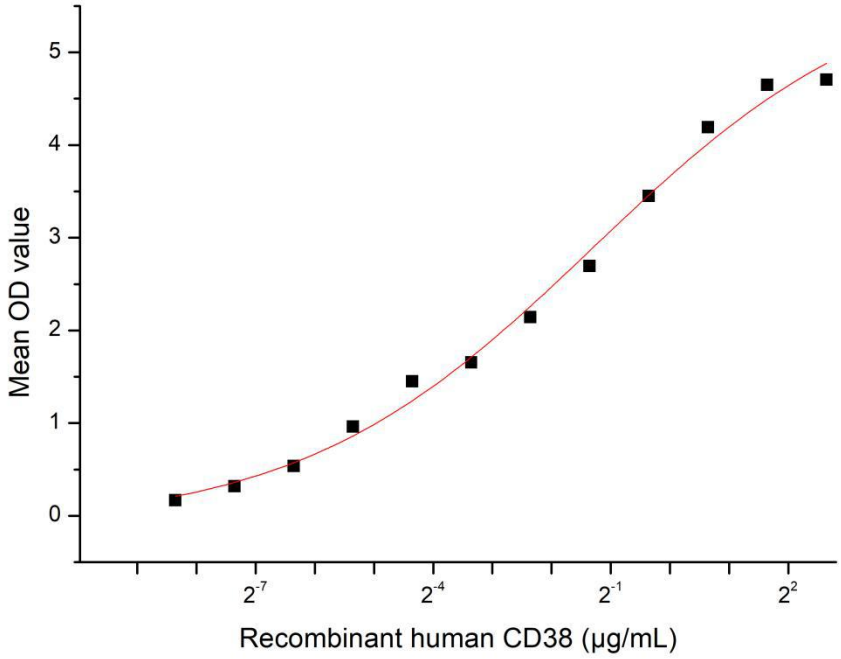


Figure 1. The binding activity of recombinant human CD38 and recombinant mouse SIRT1

[IDENTIFICATION]

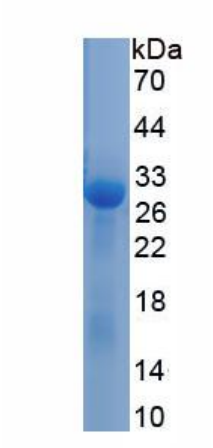


Figure 2. SDS-PAGE

Sample: Active recombinant CD38, 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.