**UAPA752Hu61 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:** Eukaryotic expression.
**Host:** 293F cell
**Residues:** Ala200~Ile300
**Tags:** N-terminal His-tag
**Purity:** >80%
**Endotoxin Level:** <1.0EU per 1μg (determined by the LAL method).
**Buffer Formulation:** PBS, pH7.4, containing 5% trehalose.
**Applications:** Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
**Predicted isoelectric point:** 6.2
**Predicted Molecular Mass:** 13.1kDa
**Accurate Molecular Mass:** 18-25kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:
1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

## [ 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 2-8°C for one month.
Aliquot and store at -80°C 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 37°C 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 ]

ACDVVHVMLNGSRSKIFDKNSTFGSVEVHNLQPEKVQTLEAWVIHGGREDSRDLCQDPTIKELESIISKRNIQFSCKNIYRPDKFLQC
VKNPEDSSCTSEI

## [ ACTIVITY ]

Cyclic ADP Ribose Hydrolase (cADPRH), commonly known as CD38, is a multifunctional enzyme widely expressed on various cell surfaces. Its primary function involves catalyzing the synthesis and hydrolysis of cyclic ADP-ribose (cADPR) from $NAD^+$ . cADPR is a crucial secondary messenger that mobilizes calcium ions from intracellular stores, thereby playing a vital role in regulating calcium signaling. This process is essential for numerous physiological functions, including immune response, insulin secretion, and neural signaling. CD38's involvement in calcium homeostasis links it to metabolic diseases, aging, and immune disorders. Furthermore, it serves as a cell surface marker in hematological malignancies and is a target for therapeutic antibodies.Besides,CD19 has been identified as an interactor of cADPRH, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human cADPRH and recombinant human CD19. Briefly, biotin-linked

cADPRH were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100μl were then transferred to CD19-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μl stop solution to the wells and read at 450nm immediately. The binding activity of cADPRH and CD19 was shown in Figure 1, the EC50 for this effect is 0.25497μg/mL.

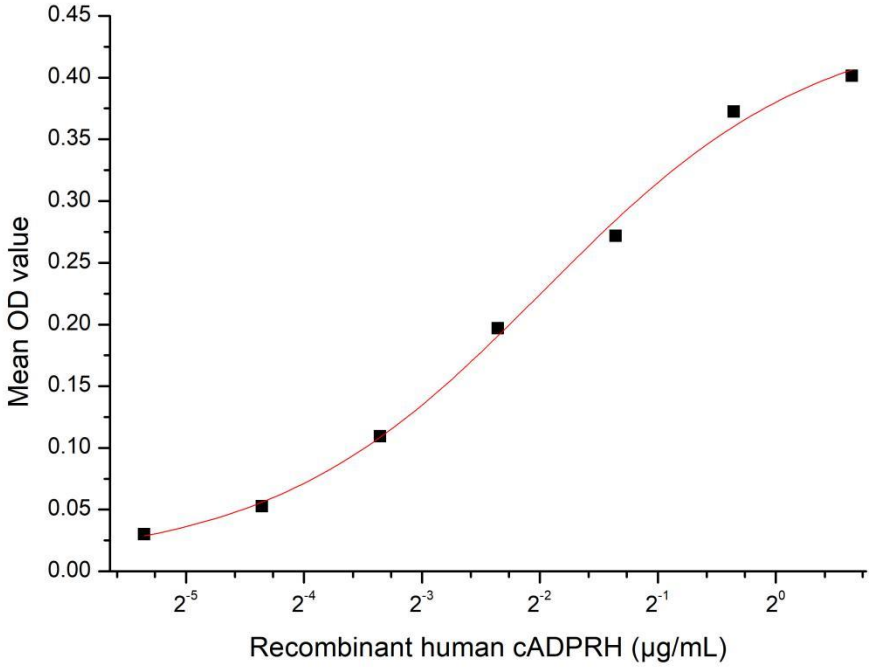


**Figure 1. The binding activity of cADPRH and CD19**

# [ IDENTIFICATION ]

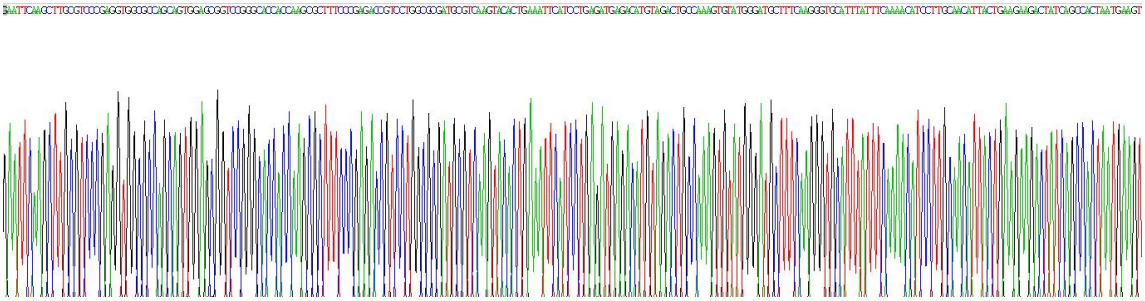

**Figure 2. Gene Sequencing (extract)**

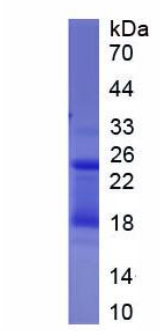


**Figure 3. SDS-PAGE**

**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.