APF707Hu01 100μg
Active Peptidyl Arginine Deiminase Type II (PADI2)
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: Met1~Thr300
Tags: N-terminal His and GST 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: 4.9
Predicted Molecular Mass: 63.9kDa
Accurate Molecular Mass: 64kDa 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]

MLRERTVRLQ YGSRVEAVYV LGTYLWTDVY SAAPAGAQTF SLKHSEHVWV
EVVRDGEAEE VATNGKQRWL LSPSTTLRVT MSQASTEASS DKVTVNYYDE
EGSIPIDQAG LFLTAIEISL DVDADRDGVV EKNNPKKASW TWGPEGQGAI
LLVNCDRETP WLPKEDCRDE KVYSKEDLKD MSQMILRTKG PDRLPAGYEI
VLYISMSDSD KVGVFYVENP FFGQRYIHIL GRRKLYHVVK YTGGSAELLF
FVEGLCFPDE GFSGLVSIHV SLLEYMAQDI PLTPIFTDTV IFRIAPWIMT

[ACTIVITY]

Peptidyl Arginine Deiminase Type II (PADI2) is a calcium-dependent enzyme that catalyzes the post-translational deimination of arginine residues to citrulline, playing key roles in epigenetic regulation, immune response, and diseases like rheumatoid arthritis and multiple sclerosis. PADI2 interacts with Carbonic Anhydrase I (CA1), potentially modulating cellular pH balance and metabolic processes through their functional interplay. Thus a functional ELISA assay was conducted to detect the interaction of recombinant human PADI2 and recombinant human CA1. Briefly, PADI2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to CA1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-PADI2 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 PADI2 and recombinant human CA1 was shown in Figure 1, the EC50 for this effect is 0.054ug/mL.

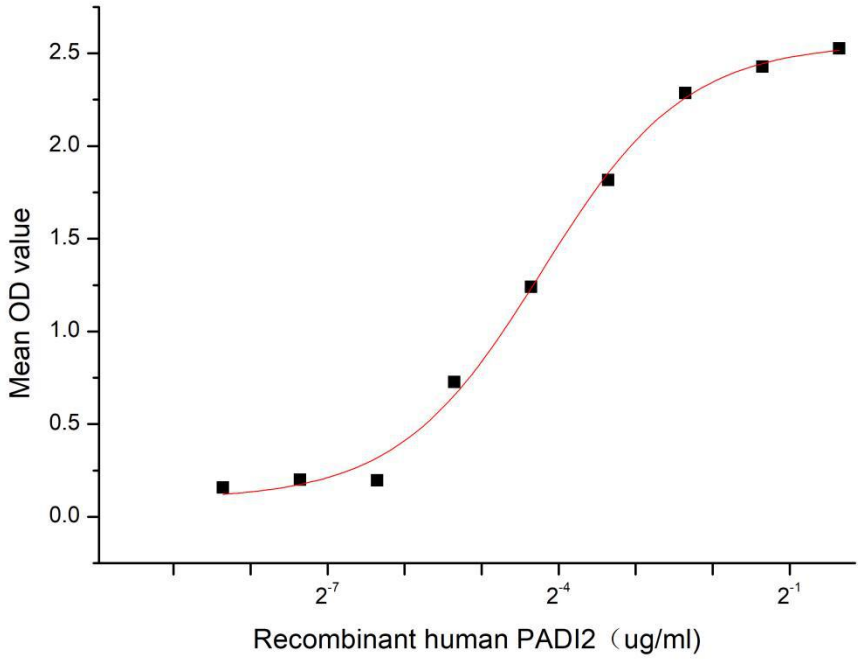

Figure 1. The binding activity of recombinant human PADI2 and human CA1

[IDENTIFICATION]

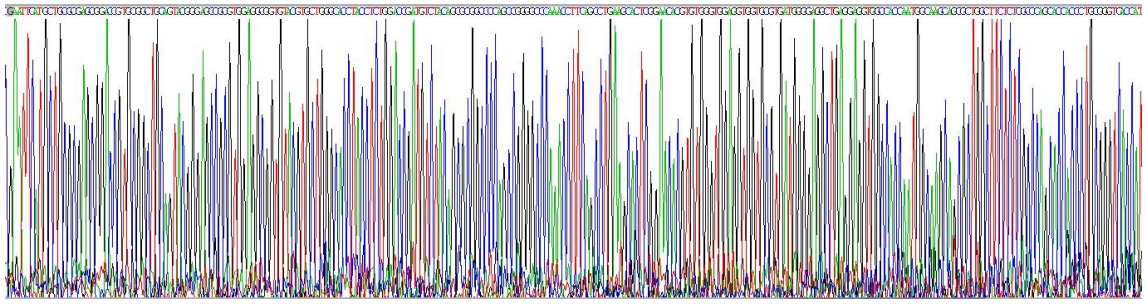

Figure 2. Gene Sequencing (extract)

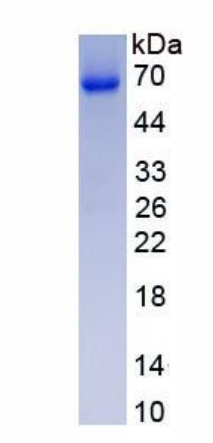

Figure 3. SDS-PAGE

Sample: Active recombinant PADI2, 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.