APF142Hu01 100μg
Active Ubiquitin Specific Peptidase 2 (USP2)
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~Gly206
Tags: N-terminal His-tag
Purity: >95%
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: 9.4
Predicted Molecular Mass: 26.4kDa
Accurate Molecular Mass: 25kDa 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]

MSQLSSTLKR YTESARYTDA HYAKSGYGAY TPSSYGANLA ASLLEKEKLG
FKPVPTSSFL TRPRTYGPSS LLDYDRGRPL LRPDITGGGK RAESQTRGTE
RPLGSGLSGG SGFPYGVTNN CLSYLPINAY DQGVTLTQKL DSQSDLARDF
SSLRTSDSYR IDPRNLGRSP MLARTRKELC TLQGLYQTAS CPEYLVDYLE
NYGRKG

[ACTIVITY]

Ubiquitin-Specific Peptidase 2 (USP2) is a deubiquitinating enzyme (DUB) belonging to the USP family, which plays a critical role in regulating protein stability and function by cleaving ubiquitin chains from target proteins. USP2 is involved in diverse cellular processes, including cell cycle progression, apoptosis, DNA repair, and immune responses. It has two major isoforms, USP2a and USP2b, with USP2a being the more extensively studied. USP2a is known to stabilize key proteins such as MDM2 (a negative regulator of p53) and fatty acid synthase (FASN), linking it to cancer progression and metabolism. Dysregulation of USP2 has been implicated in various cancers, neurodegenerative diseases, and inflammatory conditions, making it a potential therapeutic target.Besides,Ubiquitin Specific Peptidase 14 (USP14) has been identified as an interactor of USP2, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human USP2 and recombinant human USP14 . Briefly, biotin-linked USP2 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to USP14-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 ecombinant human USP2 and recombinant human USP14 was shown in Figure 1, the EC50 for this effect is 0.724μg/mL.

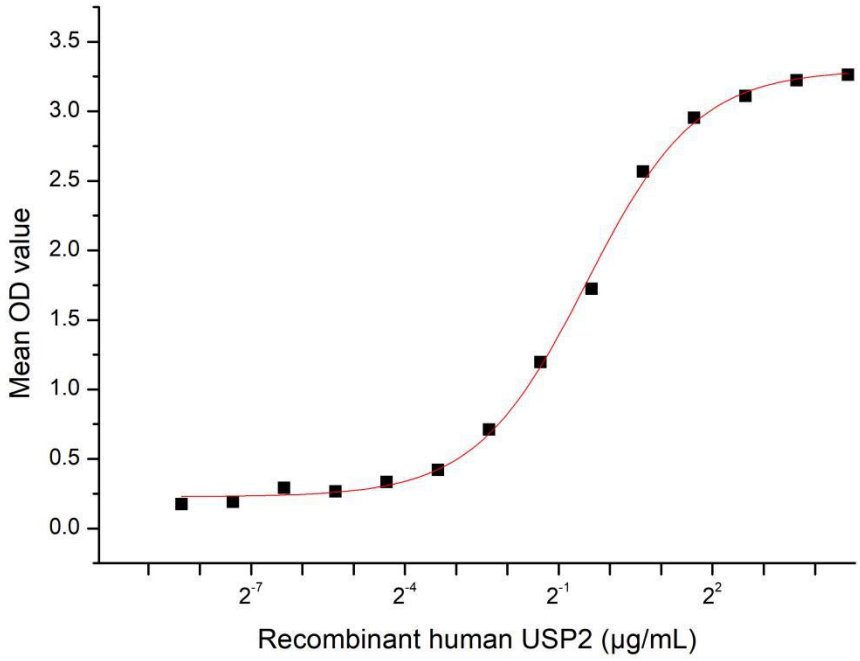

Figure 1. The binding activity of recombinant human USP2 and recombinant human USP14

[IDENTIFICATION]

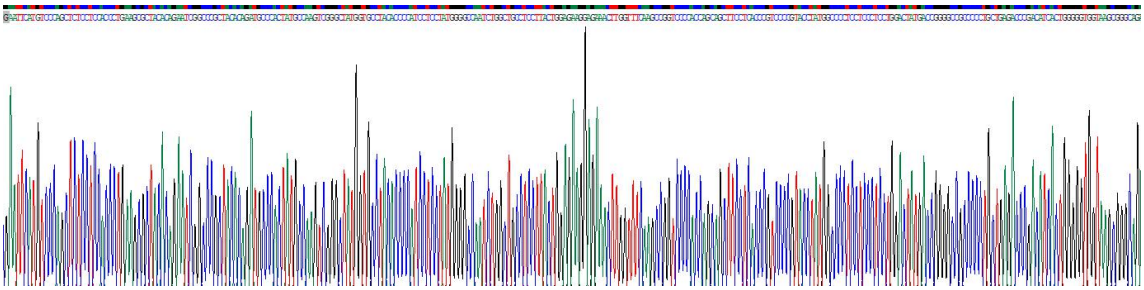

Figure 2. Gene Sequencing (extract)

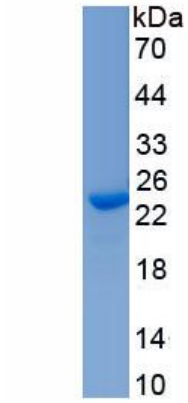

Figure 3. SDS-PAGE

Sample: Active recombinant USP2, 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.