**APP807Hu61 100μg**
**Active Poly ADP Ribose Glycohydrolase (PARG)**
**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:** Ser448~Thr976
**Tags:** N-terminal His-tag
**Purity:** >97%
**Endotoxin Level:** <1.0EU per 1μg (determined by the LAL method).
**Buffer Formulation:** PBS, pH7.4, containing 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:** 6.4
**Predicted Molecular Mass:** 62.7kDa
**Accurate Molecular Mass:** 70kDa 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 ]

SPD
KKWLGTPIEE MRRMPRCGIR LPLLRPSANH TVTIRVDLLR AGEVPKPFPT
HYKDLWDNKH VKMPCSEQNL YPVEDENGER TAGSRWELIQ TALLNKFTRP
QNLKDAILKY NVAYSKKWDF TALIDFWDKV LEEAEAQHLY QSILPDMVKI
ALCLPNICTQ PIPLLKQKMN HSITMSQEQI ASLLANAFFC TFPRRNAKMK
SEYSSYPDIN FNRLFEGRSS RKPEKLKTLF CYFRRVTEKK PTGLVTFTRQ
SLEDFPEWER CEKPLTRLHV TYEGTIEENG QGMLQVDFAN RFVGGGVTSA
GLVQEEIRFL INPELIISRL FTEVLDHNEC LIITGTEQYS EYTGYAETYR
WSRSHEDGSE RDDWQRRCTE IVAIDALHFR RYLDQFVPEK MRRELNKAYC
GFLRPGVSSE NLSAVATGNW GCGAFGGDAR LKALIQILAA AAAERDVVYF
TFGDSELMRD IYSMHIFLTE RKLTVGDVYK LLLRYYNEEC RNCSTPGPDI
KLYPFIYHAV ESCAETADHS GQRTGT

## [ ACTIVITY ]

Poly ADP Ribose Glycohydrolase (PARG) is a primary hydrolase involved in the degradation of poly(ADP-ribose) (PAR). It possesses both endo-glycohydrolase and exo-glycohydrolase activity, with a preference for the latter by binding to the two most distal ADP-ribose residues within the PAR chain. These enzymatic actions produce either free PAR or mono ADP-ribose moieties, respectively. The liberated mono ADP-ribose is further metabolized into AMP and ribose 5' phosphate by enzymes such as the NUDIX family. PARG thus plays a crucial role in regulating PAR levels, which are involved in various cellular processes including

DNA damage response, chromatin maintenance, and DNA replication.Besides,Activating Transcription Factor 6 (ATF6) has been identified as an interactor of PARG, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human PARG and recombinant human ATF6. Briefly, biotin-linked PARG were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to ATF6-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 PARG and ATF6 was shown in Figure 1, the EC50 for this effect is 0.28ug/mL.

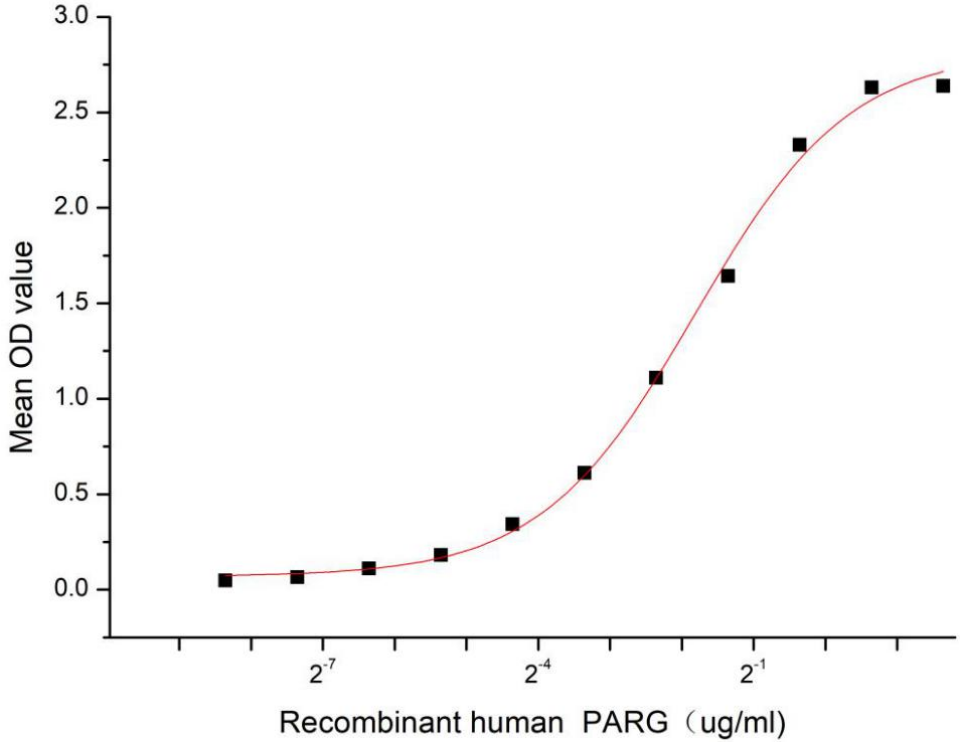


**Figure 1. The binding activity of recombinant human PARG and recombinant human ATF6**

# [ IDENTIFICATION ]

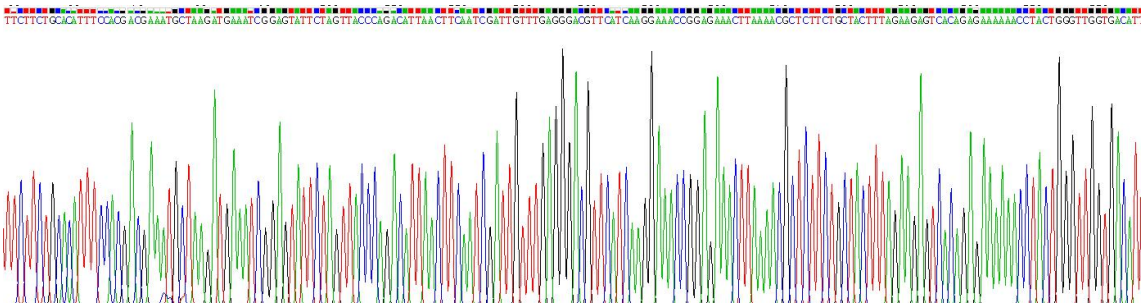

**Figure 2. Gene Sequencing (extract)**

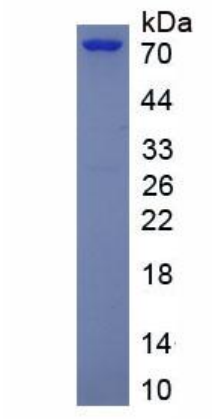


**Figure 3. SDS-PAGE**

**Sample: Active recombinant PARG, 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.