

**APC534Hu61 100µg**  
**Active Histidine Rich Glycoprotein (HRG)**  
**Organism Species: *Homo sapiens (Human)***  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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13th Edition (Revised in Aug, 2023)

## **[ PROPERTIES ]**

**Source:** Eukaryotic expression.

**Host:** 293F cell

**Residues:** Val19~Lys525

**Tags:** N-terminal His-tag

**Purity:** >98%

**Endotoxin Level:** <1.0EU per 1µg (determined by the LAL method).

**Buffer Formulation:** PBS, pH7.4, containing 5% trehalose.

**Applications:** Cell culture; Activity Assays; In vivo assays.

(May be suitable for use in other assays to be determined by the end user.)

**Predicted isoelectric point:** 7.0

**Predicted Molecular Mass:** 59.3kDa

**Accurate Molecular Mass:** 75kDa 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.

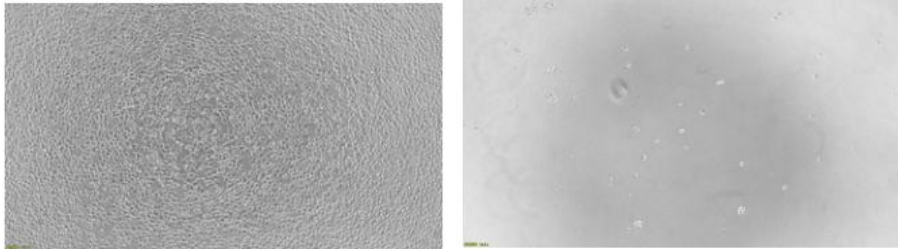
## [ SEQUENCE ]

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VS PTDCSAVEPE AEKALDLINK RRRDGYLFQL
LRIADAHLDR VENTTVYYLV LDVQESDCSV LSRKYWNDCE PPDSRRPSEI
VIGQCKVIAT RSHSHSQDLR VIDFNCTTSS VSSALANTKD SPVLIDFFED
TERYRKQANK ALEKYKEEND DFASFRVDRI ERVARVRGGE GTGYFVDFSV
RNCPRHHFPR HPNVFGFCRA DLFYDVEALD LESPKNLVIN CEVFDPQEHE
NINGVPPHLG HPFHWGGHER SSTTKPPFKP HGSRDHHPH KPHEHGPPPP
PDERDHSHP PLPQGPPPLL PMSCSSCQHA TFGTNGAQRH SHNNNSSDLH
PHKHHSHEQH PHGHHPHAAH PHEHDTHRQH PHGHHPHGHH PHGHHPHGHH
PHGHHPHCHD FQDYGPCDPP PHNQGHCCG HGPPPGHLRR RGPQKGRPF
HCRQIGSVYR LPPLRKGEVL PLPEANFPSF PLPHHKHPLK PDNQPFQSV
SESCPGKFKS GFPQVSMFFT HTFPK
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## [ ACTIVITY ]

Human histidine-rich glycoprotein (HRG) is a multidomain, monomeric, secreted, 67-75 kDa member of the cystatin superfamily of molecules. Its name derives from the fact that 26% of its amino acids (aa) are histidine and proline. In human, it is synthesized as a 525 aa precursor that contains an 18 aa signal sequence and a 507 aa mature region. Five distinct domains are recognized in the mature

molecule. As HRG has the function of cell adhesion, we measure the activity of recombinant human HRG by the ability of the immobilized protein to support the adhesion of con-A activated MOLT-4 human acute lymphoblastic leukemia cells. When  $1 \times 10^5$  cells/well with 7.5  $\mu\text{g/ml}$  conA are added to recombinant human HRG coated plates (0.1  $\mu\text{g/ml}$  with 100  $\mu\text{L/well}$ ), >70% cells will adhere after 2 hour incubation at 37 °C. The adhesion of MOLT-4 after 2 hour incubation at 37 °C observed by inverted microscope was shown in Figure 1.



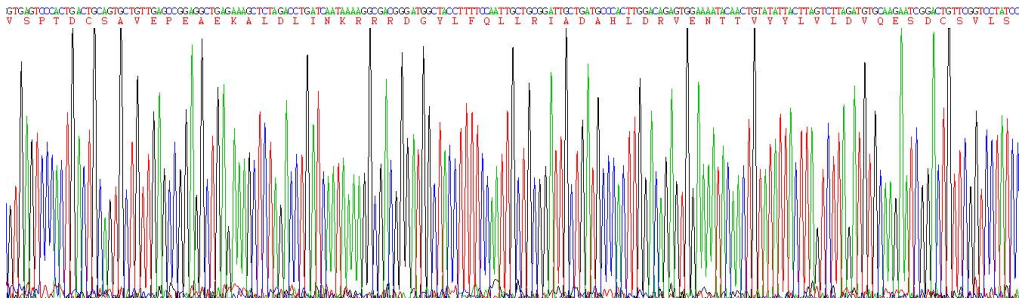
A

B

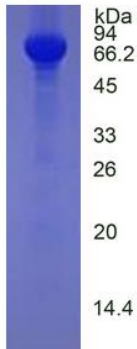
**Figure 1. The adhesion of MOLT-4 supported by recombinant human HRG**

- (A) MOLT-4 cultured in recombinant human HRG coated plates (0.1  $\mu\text{g/ml}$  with 100 $\mu\text{L/well}$ );
- (B) MOLT-4 cultured in without-protein coated plates.

## [ IDENTIFICATION ]



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



**Figure 3. SDS-PAGE**

**Sample: Active recombinant HRG, 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.