

APC534Mu61 100µg
Active Histidine Rich Glycoprotein (HRG)
Organism Species: *Mus musculus (Mouse)*
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: Leu19~Lys525

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: Cell culture; Activity Assays.

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

Predicted isoelectric point: 7.3

Predicted Molecular Mass: 58.9kDa

Accurate Molecular Mass: 80kDa 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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LS PTNCDASEPL AEKVLDLINK GRRSGYVFEL
LRVSDAHLDR AGTATVYYLA LDVIESDCWV LSTKAQDDCL PSRWQSEIVI
GQCKVIATRY SNESQDLSVN GYNCTTSSVS SALRNTKDSP VLLDFFEDSE
LYRKQARKAL DKYKTDNGDF ASFRVERAER VIRARGGERT NYYVEFSMRN
CSTQHFPRSP LVFGFCRALL SYSIETSDLE TPDSIDINCE VFNIEDHKDT
SDMKPHWGHE RPLCDKHLCK LSGSRDHHHT HKTDKLGCPP PPEGKDNSDR
PRLQEGALPQ LPPGYPPHSG ANRTHRPSYN HSCNEHPCHG HRPHGHHPHS
HHPHGHHSHG HHPHGHHPHS HSHGHHPHG HHPHGHHPHG HHPHGHHPHG
HHPHGHDFLD YGPCDPPSNS QELKGQYHRG YGPPHGHSRK RGPGKGLFPF
HHQQIGYVYR LPPLNIGEVN TLPEANFPFS SLPNCNRSLQ PEIQFPQTA
SRSCPGKFES EFPQISKFFG YTPPK
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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 mouse HRG by the ability of the immobilized protein to support the

adhesion of con-A activated MOLT-4 human acute lymphoblastic leukemia cells. When 1×10^5 cells/well with 7.5 $\mu\text{g/ml}$ conA are added to recombinant mouse HRG coated plates (different concentrations with 100 $\mu\text{L/well}$), cells will adhere after 2 hour incubation at 37 $^\circ\text{C}$. The adhesion of MOLT-4 after 2 hour incubation at 37 $^\circ\text{C}$ observed by inverted microscope was shown in figure 1. The result of cell adhesion was shown in figure 2, the EC50 was 0.36 $\mu\text{g/ml}$.

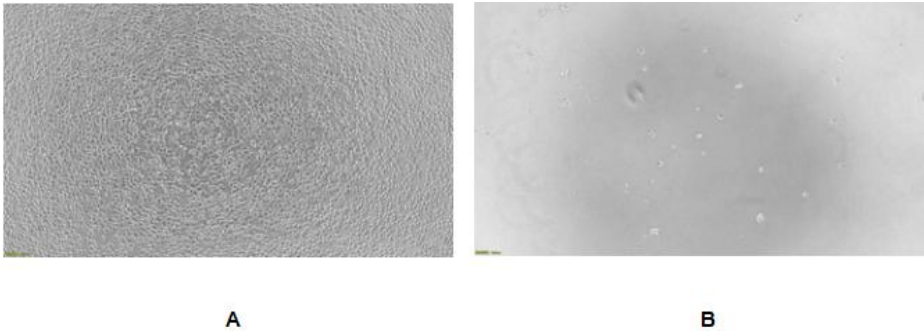


Figure 1. The adhesion of MOLT-4 supported by recombinant mouse HRG

- (A) MOLT-4 cultured in recombinant mouse HRG coated plates (0.3 $\mu\text{g/ml}$ with 100 $\mu\text{L/well}$);
 (B) MOLT-4 cultured in without-protein coated plates.

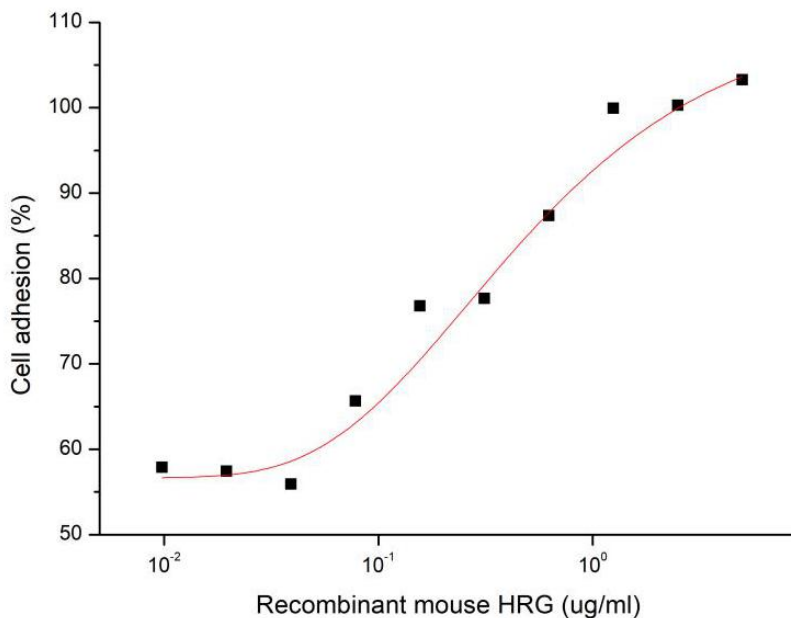


Figure 2. Cell adhesion of MOLT-4 cells after incubated with rmHRG.

[IDENTIFICATION]

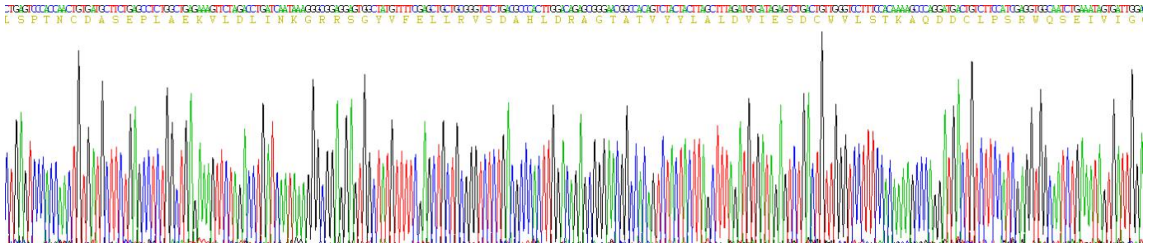


Figure 3. Gene Sequencing (extract)

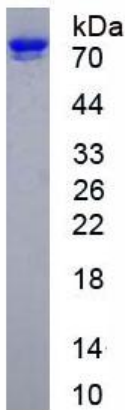


Figure 4. SDS-PAGE

Sample: Active recombinant HRG, Mouse

[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.