

APA798Mu01 100µg
Active Hypoxia Inducible Factor 1 Alpha (HIF1a)
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: Prokaryotic expression.

Host: *E. coli*

Residues: Arg588~Asn836

Tags: N-terminal His-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: 6.3

Predicted Molecular Mass: 28.3kDa

Accurate Molecular Mass: 33kDa 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 2-8°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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                                     RSF DQLSPLESNS
PSPPSMSTVT GFQQTQLQKP TITATATTTA TTDESKTETK DNKEDIKILI
ASPSSTQVPQ ETTTAKASAY SGTHSRTASP DRAGKRVIEQ TDKAHPRSLN
LSATLNQRNT VP EEELNPKT IASQNAQRKR KMEHDGSLFQ AAGIGTLLQQ
PGDCAPTMSL SWKRVKGFIS SEQNGTEQKT IILIPSDLAC RLLGQSMDES
GLPQLTSYDC EVNAPIQGSR NLLQGEELLR ALDQVN
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[ACTIVITY]

Hypoxia-inducible factor 1-alpha (HIF1A) is a key transcription factor that orchestrates cellular responses to hypoxia. Under normal oxygen conditions, it undergoes rapid proteasomal degradation mediated by the von Hippel-Lindau (VHL) ubiquitination pathway. In hypoxia, however, HIF1A stabilizes and translocates to the nucleus, where it forms a heterodimer with HIF1 β and binds to hypoxia-response elements (HREs), activating genes involved in angiogenesis, glycolysis, and erythropoiesis. Its dysregulation is implicated in cancer, ischemic disorders, and metabolic diseases, highlighting its importance as a therapeutic target. Notably, HIF1A directly interacts with E1A Binding Protein P300 (EP300) through its C-terminal transactivation domain, recruiting this coactivator to enhance histone acetylation and drive robust expression of hypoxia-inducible genes. To detect the activity of recombinant HIF1A, a functional ELISA assay was performed to evaluate the interaction between recombinant mouse HIF1A and recombinant mouse EP300. Briefly, HIF1A were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100ul were then transferred to EP300-coated microtiter wells and incubated for 2h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-HIF1A pAb, then aspirated and washed 3 times. After

incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 °C. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of HIF1A and EP300 was shown in Figure 1, and this effect was in a dose dependent manner.

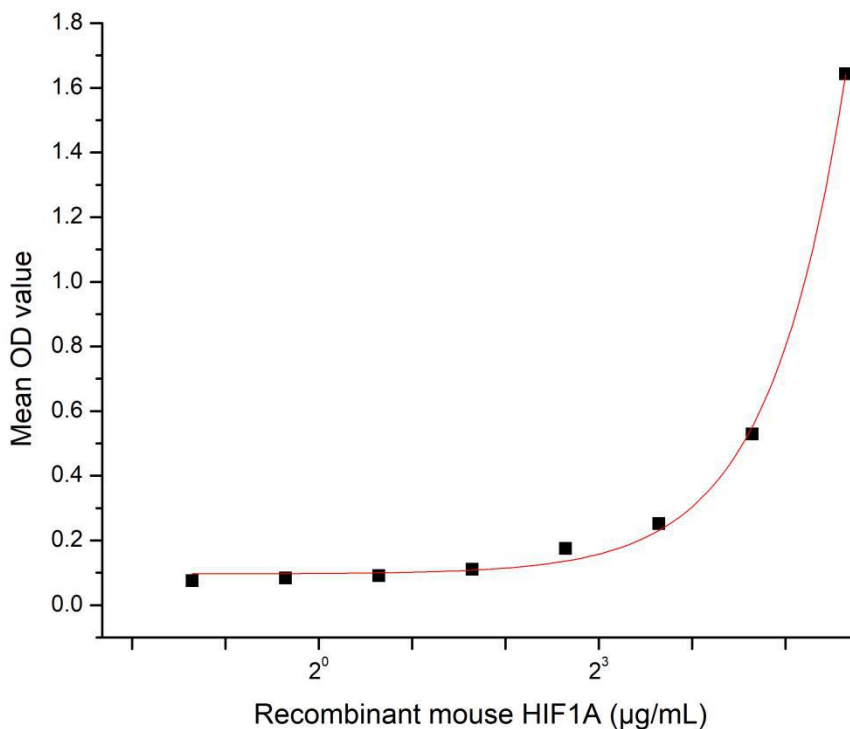


Figure 1. The binding activity of recombinant mouse HIF1A and recombinant mouse EP300

[IDENTIFICATION]

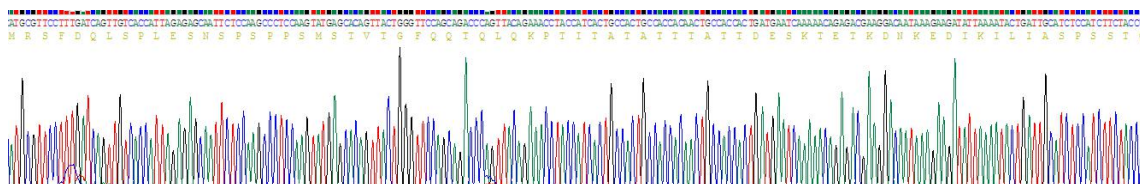


Figure 2. Gene Sequencing (extract)

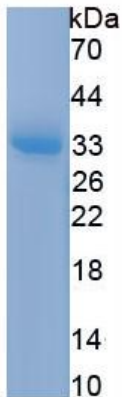


Figure 3. SDS-PAGE

Sample: Active recombinant HIF1a, 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.