APG775Ra01 50μg
Active Hepatocyte Nuclear Factor 1 Alpha (HNF1a)
Organism Species: *Rattus norvegicus (Rat)*
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: Asp56~Arg321
Tags: N-terminal His and GST Tag
Purity: >80%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5%Trehalose .
Original Concentration: 700μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 6.5
Predicted Molecular Mass: 62.8kDa
Accurate Molecular Mass: 63kDa 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 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]

DLTELPNGLGETRGSEDDTDDDGEDFAPPILKELENLSPEEAAHQKAVVESLLQEDPWRVAKM
VKSYLQQHNIPQREVVDTTGLNQSHLSQHLNKGTPMKTQKRAALYTWYVRKQREVAQQFTH
AGQGGLIEEPTGDELPTKKGRRNRFKWGPASQQILFQAYERQKNPSKEERETLVEECNRAECIQ
RGVSPSQAQGLGSNLVTEVRVYNWFANRRKEEAFRHKLAMDTYNGPPPGPGPGPALPAHSSP
GLPTTTLSPSKVHGVR

[ACTIVITY]

Hepatocyte Nuclear Factor 1 Alpha (HNF1a), encoded by the HNF1A gene, is a key transcription factor predominantly expressed in the liver, pancreas, and kidney. It regulates the expression of numerous genes involved in glucose and lipid metabolism, epithelial cell differentiation, and organ homeostasis. Mutations in HNF1A are closely linked to maturity-onset diabetes of the young type 3 (MODY3), a monogenic form of diabetes. HNF1a interacts with FOXA3, a pioneer transcription factor, to synergistically enhance the transcription of target genes related to metabolic processes.Thus a functional ELISA assay was conducted to detect the interaction of recombinant rat HNF1a and recombinant human FOXA3. Briefly, HNF1a was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to FOXA3-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-HNF1a pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant rat HNF1a and recombinant human FOXA3 was shown in Figure 1, the EC50 for this effect is 0.2245μg/mL.

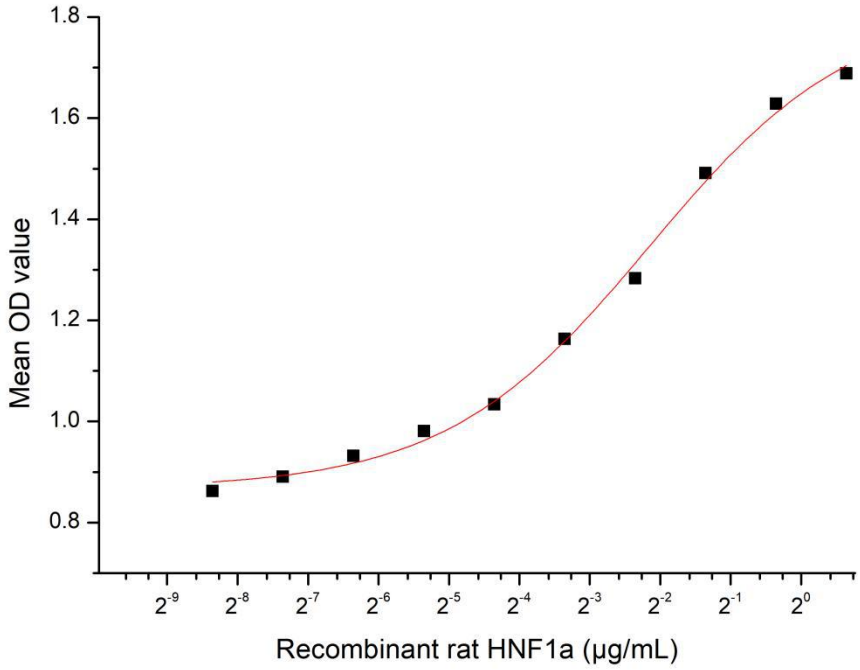

Figure 1. The binding activity of recombinant HNF1a and FOXA3

[IDENTIFICATION]

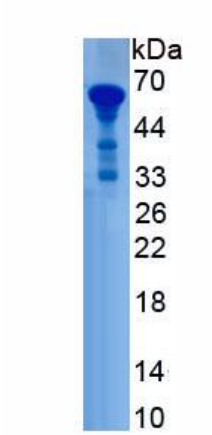

Figure 2. SDS-PAGE

Sample: Active recombinant HNF1a, Rat

[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.