

APH890Hu01 100µg

Active Homeobox Protein B4 (HOXB4)

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: Prokaryotic expression.

Host: *E. coli*

Residues: Met1~Leu251

Tags: N-terminal His-tag

Purity: >80%

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: 10.2

Predicted Molecular Mass: 31.3kDa

Accurate Molecular Mass: 36kDa 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]

MAMSSFLINSNYVDPKFPPCEEYSQSDYLPSDHSPGYAGGQRRESSFQPEA
GFGRRAACTVQRYAACRDPGPPPPPPPPPPPPPPGLSPRAPAPPPAGALLPE
PGQRCEAVSSSPPPPCAQNPLHPSPSHSACEKPVVYPWMRKVHVSTVNP
YAGGEPKRSRTAYTRQQVLELEKEFHYNRYLTRRRRVEIAHALCLSERQIKIW
FQNRMRMKWKDHLKLPNTKIRSGGAAGSAGGPPGRPNGGPRAL

[ACTIVITY]

HOXB4 protein is a transcription factor encoded by the HOXB4 gene within the HOXB gene cluster of the homeobox gene family. During embryonic development, HOXB4 plays a pivotal role in anterior - posterior (A - P) axis patterning. In hematopoiesis, HOXB4 is a key regulator. It promotes the self - renewal of hematopoietic stem cells (HSCs). Besides, Sex Determining Region Y Box Protein 2 (SOX2) has been identified as an interactor of HOXB4, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human HOXB4 and recombinant human SOX2 .

Briefly, biotin-linked HOXB4 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to SOX2-coated microtiter wells and incubated for 1h at 37 °C . 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 °C . Finally, add 50 μ l stop solution to the wells and read at 450nm immediately. The binding activity of HOXB4 and SOX2 was shown in Figure 1, the EC50 for this effect is 0.044 μ g/mL.

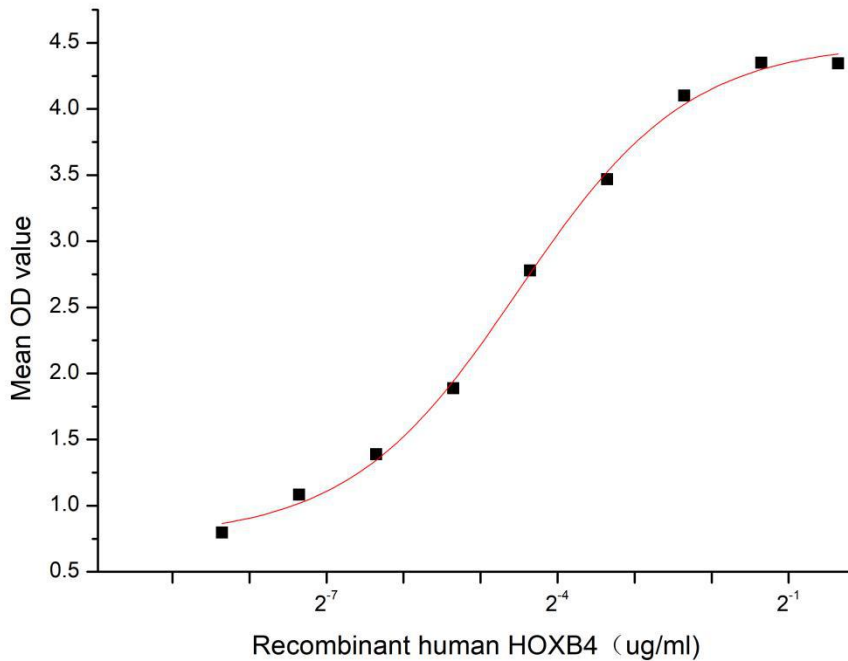


Figure 1. The binding activity of recombinant human HOXB4 and recombinant human SOX2

[IDENTIFICATION]

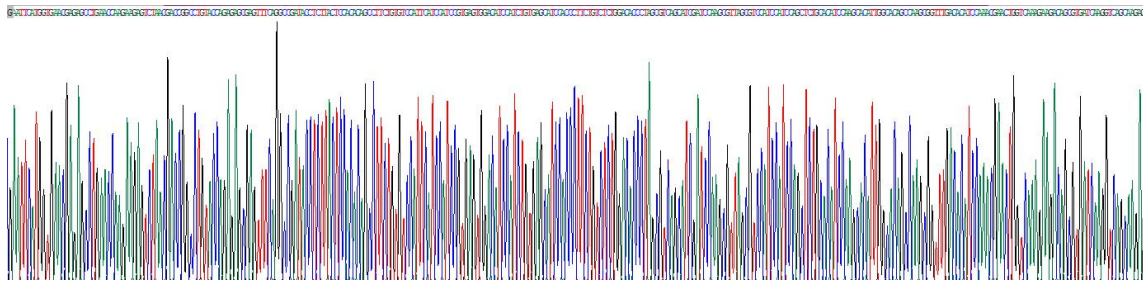


Figure 2. Gene Sequencing (extract)

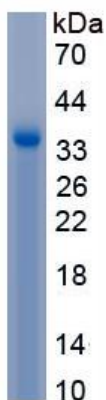


Figure 3. SDS-PAGE

Sample: Active recombinant HOXB4, 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.