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APP950Hu01 100µg Active Homeobox Protein D11 (HOXD11) 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~Phe338 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: 9.1 Predicted Molecular Mass: 38.9kDa Accurate Molecular Mass: 48kDa 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.

Aliguot and store at -80°C for 12 months.

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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.

[<u>SEQUENCE</u>]

MNDFDECGQSAASMYLPGCAYYVAPSDFASKPSFLSQPSSCQMTFPYSSNLA PHVQPVREVAFRDYGLERAKWPYRGGGGGGSAGGGSSGGGPGGGGGGGG GYAPYYAAAAAAAAAAAAAEEAAMQRELLPPAGRRPDVLFKAPEPVCAAPGP PHGPAGAASNFYSAVGRNGILPQGFDQFYEAAPGPPFAGPQPPPPAPPQPE GAADKGDPRTGAGGGGGSPCTKATPGSEPKGAAEGSGGDGEGPPGEAGAEK SSSAVAPQRSRKKRCPYTKYQIRELEREFFFNVYINKEKRLQLSRMLNLTDRQVK IWFQNRRMKEKKLNRDRLQYFTGNPLF

[ACTIVITY]

Recombinant Human Homeobox protein Hox-D11 (HOXD11), is a member of the homeobox - containing family of proteins, play crucial roles in embryonic development.During embryonic development,HOXD11 is involved in the patterning of the body axis, especially in the regions related to limb development and axial skeleton formation. It acts as a transcriptional regulator. By binding to regulatory regions of target genes, it can either activate or repress their transcription. For example, in limb development, Hox - D11 helps determine the identity of cells along the proximal - distal axis of the limb bud. It ensures that the correct structures, such as the upper arm, forearm, and digits, develop in the appropriate positions. In the axial skeleton, it contributes to the proper differentiation of vertebrae and associated tissues.Besides,S100 Calcium Binding Protein A2 (S100A2) has been identified as an interactor of HOXD11, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human HOXD11 and recombinant human S100A2.

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Briefly, biotin-linked HOXD11 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ I were then transferred to S100A2-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 I stop solution to the wells and read at 450nm immediately. The binding activity of HOXD11 and S100A2 was shown in Figure 1, the EC50 for this effect is 0.16ug/mL.



Figure 1. The binding activity of recombinant human HOXD11 and recombinant human S100A2

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[IDENTIFICATION]



Figure 2. Gene Sequencing (extract)



Figure 3. SDS-PAGE

Sample: Active recombinant HOXD11, 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.