Anti-Brachyury / Bry Antibody [JE44-11]

ET7109-35

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IHC-P, FC, IP
Molecular Wt:	Predicted band size: 47 kDa
Clone number:	JE44-11

Description: T-box transcription factor T, also known as Brachyury protein, is encoded for in humans by the TBXT gene. Brachyury functions as a transcription factor within the T-box family of genes. The gene brachyury appears to have a conserved role in defining the midline of a bilaterian organism, and thus the establishment of the anterior-posterior axis; this function is apparent in chordates and molluscs. Its ancestral role, or at least the role it plays in the Cnidaria, appears to be in defining the blastopore. It also defines the mesoderm during gastrulation. Tissue-culture based techniques have demonstrated one of its roles may be in controlling the velocity of cells as they leave the primitive streak. It effects transcription of genes required for mesoderm formation and cellular differentiation.[clarification needed] Brachyury has also been shown to help establish the cervical vertebral blueprint during fetal development. The number of cervical vertebrae is highly conserved among all mammals; however a spontaneous vertebral and spinal dysplasia (VSD) mutation in this gene has been associated with the development of six or fewer cervical vertebrae instead of the usual seven.

Immunogen: Recombinant protein within Human Brachyury aa 236-435 / 435.

Positive control: Hela cell lysate, 293 cell lysate, SH-SY5Y cell lysate, mouse embryo notochord tissue, A549.

Subcellular location: Nucleus.

Database links: SwissProt: O15178 Human | P20293 Mouse

Recommended Dilutions:

WB	1:500-1:1,000
IHC-P	1:1,000
FC	1:50-1:100
IP	Use at an assay dependent concentration.

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% SodiumAzide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

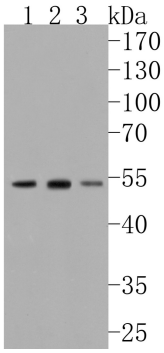

Fig1: Western blot analysis of Brachyury / Bry on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (ET7109-35, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:5,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane 1: Hela cell lysate
Lane 2: 293 cell lysate
Lane 3: SH-SY5Y cell lysate

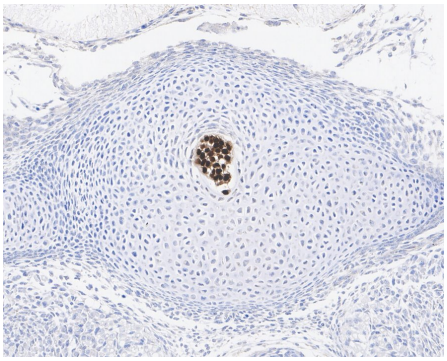

Fig2: Immunohistochemical analysis of paraffin-embedded mouse embryo notochord tissue with Rabbit anti-Brachyury / Bry antibody (ET7109-35) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET7109-35) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

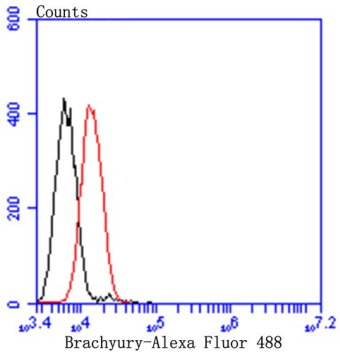

Fig3: Flow cytometric analysis of Brachyury / Bry was done on A549 cells. The cells were fixed, permeabilized and stained with the primary antibody (ET7109-35, 1/50) (red). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor 488-conjugated Goat anti-Rabbit IgG Secondary antibody at 1/1,000 dilution for 30 minutes.Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. Roselli M et al. Brachyury, a driver of the epithelial-mesenchymal transition, is overexpressed in human lung tumors: an opportunity for novel interventions against lung cancer. Clin Cancer Res 18:3868-3879 (2012).
2. Postma A.V et al. Mutations in the T (brachyury) gene cause a novel syndrome consisting of sacral agenesis, abnormal ossification of the vertebral bodies and a persistent notochordal canal. J Med Genet 51:90-97 (2014).