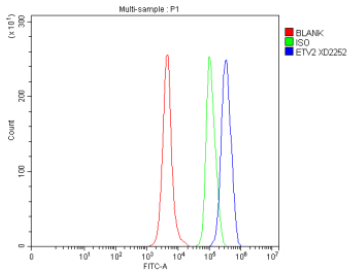
ETV2 Antibody / ETS variant transcription factor 2 (FY13334)

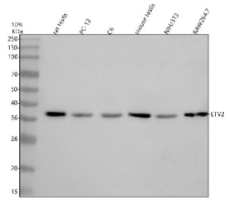
Catalog No.	Formulation	Size
FY13334	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P41163
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This ETV2 antibody is available for research use only.



Flow Cytometry analysis of mouse RAW264.7 cells using anti-ETV2 antibody. Overlay histogram showing RAW264.7 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-ETV2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of ETV2 using anti-ETV2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: rat testis tissue lysates, Lane 2: rat PC-12 whole cell lysates, Lane 3: rat C6 whole cell lysates, Lane 4: mouse testis tissue lysates, Lane 5: mouse NIH/3T3 whole cell lysates, Lane 6: mouse RAW264.7 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ETV2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for ETV2 at approximately 37 kDa. The expected molecular weight of ETV2 is ~37 kDa.

Description

ETV2 antibody detects ETS variant transcription factor 2, a nuclear DNA-binding protein encoded by the ETV2 gene on chromosome 19p13.3. ETV2 belongs to the ETS family of transcription factors and is an essential regulator of vascular and hematopoietic development. It is highly expressed in endothelial progenitor cells, embryonic mesoderm, and early hematopoietic lineages, where it drives the transcription of genes required for blood vessel and blood cell formation. ETV2 functions as a master transcriptional activator that initiates endothelial lineage commitment during embryogenesis.

ETV2 directly binds to ETS consensus sequences in the promoters of endothelial genes, activating transcription of critical targets such as VEGFR2 (KDR), TIE2, and CDH5 (VE-cadherin). This activity positions ETV2 at the top of the transcriptional hierarchy controlling vasculogenesis and angiogenesis. It cooperates with transcription factors such as GATA2 and FOXC2 to orchestrate endothelial differentiation and vascular remodeling. ETV2 also transiently regulates hematopoietic gene expression, linking early vascular and blood development.

Structurally, ETV2 contains an ETS DNA-binding domain responsible for recognizing GGAA/T motifs in target promoters and a transactivation domain that recruits coactivators such as CBP/p300. These interactions enable the chromatin remodeling necessary for endothelial gene induction. ETV2 belongs to the ETS family of transcription factors, which share highly conserved DNA-binding domains that control diverse developmental and cellular processes.

Functionally, ETV2 plays a crucial role in embryonic vasculogenesis, angiogenesis, and reprogramming of somatic cells toward endothelial fates. Forced expression of ETV2 in fibroblasts can induce endothelial gene expression, demonstrating its potency as a lineage reprogramming factor. ETV2 also participates in VEGF and MAPK signaling pathways, coordinating growth factor responses during vascular morphogenesis. Co-localization studies have shown ETV2 associating with GATA2 and TAL1 in the nucleus, forming transcriptional complexes essential for endothelial specification.

Dysregulation of ETV2 expression disrupts vascular and hematopoietic development and has been implicated in congenital heart defects and embryonic lethality in knockout models. In adult tissues, ETV2 expression is normally repressed, but its reactivation can promote angiogenesis in ischemic and regenerative contexts. Pathway involvement includes VEGF signaling, Notch signaling, and angiogenic transcriptional networks that coordinate vessel growth and stabilization.

Immunohistochemical staining using ETV2 antibody reveals strong nuclear localization in vascular endothelial cells and embryonic tissues. ETV2 antibody from NSJ Bioreagents is an excellent reagent for research in endothelial cell differentiation, vascular biology, and transcriptional regulation of angiogenesis.

Application Notes

Optimal dilution of the ETV2 antibody should be determined by the researcher.

Immunogen

E.coli-derived mouse ETV2 recombinant protein (Position: M1-Q335) was used as the immunogen for the ETV2 antibody.

Storage

After reconstitution, the ETV2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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