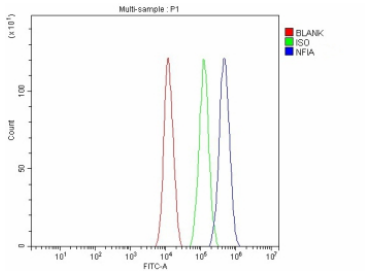
NFIA Antibody / Nuclear factor 1 A-type (FY12453)

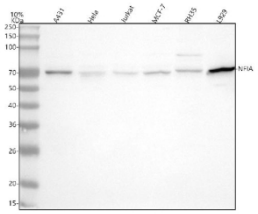
Catalog No.	Formulation	Size
FY12453	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, 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	Q12857
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This NFIA antibody is available for research use only.



Flow Cytometry analysis of JK cells using anti-NFIA antibody. Overlay histogram showing JK 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-NFIA 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 NFIA using anti-NFIA antibody. Lane 1: human whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: human MCF-7 whole cell lysates, Lane 5: rat RH35 whole cell lysates, Lane 6: mouse L929 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-NFIA 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 enhanced chemiluminescent. NFIA (~55 kDa predicted) was detected at ~70 kDa, consistent with phosphorylation- and acetylation-dependent mobility shifts reported for the active nuclear form of this transcription factor.

Description

NFIA antibody detects Nuclear factor 1 A-type, a member of the NFI transcription factor family involved in gene regulation during development, differentiation, and glial cell maturation. NFIA functions as both an activator and repressor of transcription and binds to the palindromic NFI recognition site present in numerous promoters. It plays critical roles in the development of the central nervous system, particularly in astrocyte differentiation, corpus callosum formation, and regulation of glial-specific gene expression. The NFIA antibody is a widely used tool for exploring transcriptional mechanisms that control neural development and glial identity.

NFIA is encoded by the NFIA gene located on human chromosome 1p31.3. The protein contains a conserved N-terminal DNA-binding domain responsible for dimerization and sequence-specific binding, along with a C-terminal transactivation/repression region that interacts with other transcriptional regulators. NFIA forms homo- and heterodimers with other NFI family members (NFIB, NFIC, NFIX), allowing combinatorial control of target genes. Studies in model organisms have shown that loss of NFIA disrupts gliogenesis, leading to abnormal brain structure and impaired glial differentiation.

Expression profiling reveals that NFIA is abundant in glial progenitor cells and astrocytes, while its expression declines as neurons mature. Western blot analysis using NFIA antibody typically identifies a band near 54-60 kDa (unphosphorylated form), corresponding to the full-length transcription factor. Immunohistochemistry reveals strong nuclear localization in developing brain regions, spinal cord, and other tissues undergoing differentiation. NFIA cooperates with SOX9, STAT3, and other transcriptional factors to regulate astrocytic gene programs, such as those encoding GFAP and S100B.

In addition to its role in neurodevelopment, NFIA participates in the regulation of kidney morphogenesis, adipogenesis, and hematopoietic stem cell maintenance. Dysregulation or mutation of NFIA has been linked to developmental delay, macrocephaly, and agenesis of the corpus callosum in human syndromic cases. NSJ Bioreagents provides a validated NFIA antibody optimized for western blot, immunohistochemistry, and chromatin studies, making it a key reagent for dissecting transcriptional networks in development and disease.

Application Notes

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

Immunogen

E.coli-derived human NFIA recombinant protein (Position: V172-Q233) was used as the immunogen for the NFIA antibody.

Storage

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