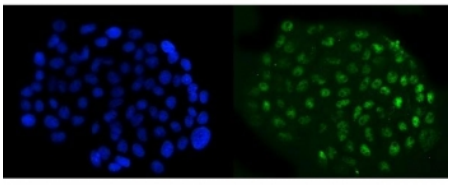
Nuclear factor 1 B-type Antibody / NFIB [clone 4D6E4] (RQ6747)

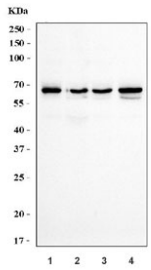
Catalog No.	Formulation	Size
RQ6747	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

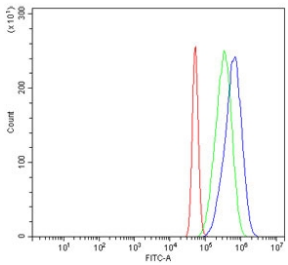
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	4D6E4
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O00712
Localization	Nuclear
Applications	Western Blot : 1-2ug/ml Immunofluorescence (FFPE) : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This Nuclear factor 1 B-type antibody is available for research use only.



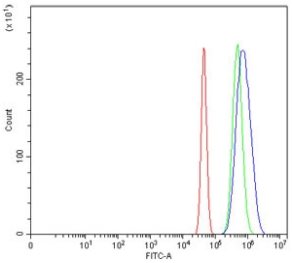
Immunofluorescent staining of FFPE human A431 cells with Nuclear factor 1 B-type antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



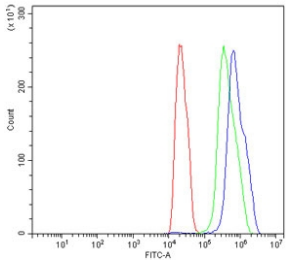
Western blot testing of human 1) HeLa, 2) MCF7, 3) HepG2 and 4) 293T cell lysate with Nuclear factor 1 B-type antibody. Predicted molecular weight ~47 kDa.



Flow cytometry testing of human A431 cells with Nuclear factor 1 B-type antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Nuclear factor 1 B-type antibody.



Flow cytometry testing of mouse Neuro-2a cells with Nuclear factor 1 B-type antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Nuclear factor 1 B-type antibody.



Flow cytometry testing of rat C6 cells with Nuclear factor 1 B-type antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Nuclear factor 1 B-type antibody.

Description

Nuclear factor 1 B-type is a protein that in humans is encoded by the NFIB gene. The NFIB gene is a part of the NFI gene complex that includes three other genes (NFIA, NFIC and NFIX). The NFIB gene is a protein coding gene that also serves as a transcription factor. This gene is essential in embryonic development and it works together with its gene complex to initiate tissue differentiation in the fetus. Through knockout experiments, researchers found that mice without the NFIB gene have severely underdeveloped lungs. This mutation does not seem to cause spontaneous abortions because in utero the fetus does not use its lungs for respiration. However, this becomes lethal once the fetus is born and has to take its first breath. It is thought that NFIB plays a role in down regulating the transcription factors TGF-?1 and Shh in normal gestation because they remained high in knockout experiments. The absence of NFIB also leads to insufficient amounts of surfactant being produced which is one reason why the mice cannot breathe once it is born. The knockout experiments demonstrated that NFIB has a significant role in fore-brain development. NFIB is typically found in pontine nuclei of the CNS, the cerebral cortex and the white matter of the brain and without NFIB these areas are dramatically affected.

Application Notes

Optimal dilution of the Nuclear factor 1 B-type antibody should be determined by the researcher.

Immunogen

Amino acids ELVRVS RTPITQGTGVNFPIGEIPSQPYYHDMNSGVNLQR from the human protein were used as the immunogen for the Nuclear factor 1 B-type antibody.

Storage

After reconstitution, the Nuclear factor 1 B-type antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.