RFX4 Antibody / Regulatory factor X4 (FY12443)

Catalog No.	Formulation	Size
FY12443	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
Format	Lyophilized
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	Q33E94
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This RFX4 antibody is available for research use only.

Description

RFX4 antibody recognizes regulatory factor X4, a transcription factor belonging to the RFX family of winged-helix DNA-binding proteins. RFX4 binds to X-box motifs in promoter regions and regulates the transcription of numerous genes involved in development, cell differentiation, and ciliary function. Within the brain, RFX4 plays an essential role in the differentiation of neural progenitors and the maintenance of ventricular zone organization. It is expressed predominantly in the central nervous system, with enrichment in the hypothalamus and cerebral cortex. The RFX4 antibody is widely used to investigate its role in neurodevelopment, ciliogenesis, and transcriptional regulation of genes associated with signaling and metabolism.

RFX4 is encoded by the RFX4 gene located on human chromosome 12q23.1. Alternative splicing of this gene produces several isoforms, including RFX4_v1, RFX4_v2, and RFX4_v3, each differing in transcriptional activity and tissue expression. The protein contains a conserved DNA-binding domain characteristic of RFX family members, as well as a dimerization domain that allows heterodimer formation with other RFX proteins such as RFX2 or RFX3. These interactions contribute to complex transcriptional control of cilia-related genes, making RFX4 a central node in the regulation of motile and primary cilia biogenesis.

The RFX4 antibody has been instrumental in studies linking gene expression patterns to developmental brain disorders.

Loss-of-function mutations or altered RFX4 expression have been associated with congenital hydrocephalus, holoprosencephaly, and various neurodevelopmental syndromes. Mouse models deficient in Rfx4 show severe forebrain malformations and altered neuronal differentiation, demonstrating its crucial role in brain patterning. Beyond the CNS, RFX4 contributes to the regulation of genes expressed in reproductive and endocrine tissues, including those controlling gonadotropin-releasing hormone production and pituitary signaling. Researchers use this antibody for western blot, immunohistochemistry, and immunofluorescence to monitor its expression during neurogenesis and in cultured cells undergoing differentiation.

In experimental systems, RFX4 localizes mainly to the nucleus, where it binds target promoters and interacts with co-regulatory proteins such as CREB-binding protein (CBP) and EP300. Studies using chromatin immunoprecipitation and transcriptome analyses have revealed that RFX4 controls transcriptional programs tied to ciliary trafficking, cell polarity, and synaptic development. NSJ Bioreagents provides a validated RFX4 antibody optimized for human, mouse, and rat samples, supporting applications across developmental and molecular neuroscience. Its specificity makes it valuable in dissecting the molecular pathways underlying ciliopathies and neurodevelopmental disorders.<

Application Notes

Optimal dilution of the RFX4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human RFX4 recombinant protein (Position: Q124-H667) was used as the immunogen for the RFX4 antibody.

Storage

After reconstitution, the RFX4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.