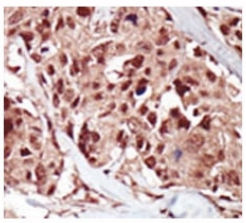
BRD4 Antibody N-Terminal Region / Bromodomain-containing protein 4 (F53770)

Catalog No.	Formulation	Size
F53770-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F53770-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Purified
UniProt	O60885
Applications	IHC (Paraffin): 1:50-1:100
Limitations	This BRD4 antibody is available for research use only.



Immunohistochemistry of BRD4 antibody in human breast carcinoma tissue. FFPE human breast carcinoma shows predominantly nuclear HRP-DAB brown staining within tumor epithelial cells, consistent with the known nuclear localization of Bromodomain-containing protein 4 as a chromatin-associated transcriptional regulator. The antibody targets the N-terminal region of BRD4.

Description

BRD4 antibody recognizes Bromodomain-containing protein 4, a nuclear epigenetic regulator encoded by the BRD4 gene. BRD4 is a member of the BET family of bromodomain-containing proteins, which also includes BRD2, BRD3, and BRDT. This protein localizes predominantly to the nucleus where it binds acetylated lysine residues on histone tails through its tandem N-terminal bromodomains, thereby regulating chromatin structure and transcriptional activation. BRD4 Antibody N-Terminal Region is designed to detect endogenous BRD4 protein and support research into chromatin remodeling and transcriptional control mechanisms.

BRD4 plays a central role in transcriptional elongation by recruiting positive transcription elongation factor b to promoter and enhancer regions. Through this interaction, Bromodomain-containing protein 4 facilitates phosphorylation of RNA polymerase II and promotes productive transcription of genes involved in cell cycle progression, inflammation, and oncogenic signaling. BRD4 is particularly enriched at super-enhancers that regulate key lineage-specific and disease-associated genes, making it an important factor in epigenetic control of cell identity.

The BRD4 gene is located on chromosome 19p13.12 and produces multiple isoforms through alternative splicing. The long isoform contains a C-terminal domain that interacts with transcriptional regulators, while the short isoform lacks this region but retains bromodomain-mediated chromatin binding. Targeting the N-terminal region enables detection of major BRD4 isoforms that share conserved bromodomains responsible for acetyl-lysine recognition.

BRD4 has been extensively studied in cancer biology due to its involvement in MYC regulation and other oncogenic transcriptional programs. Chromosomal translocations involving BRD4 and NUTM1 give rise to aggressive carcinomas, highlighting its importance in tumorigenesis. In addition to cancer, BRD4 contributes to inflammatory signaling pathways and viral transcriptional regulation, including interactions with viral proteins that hijack host transcriptional machinery.

By recognizing the N-terminal region of Bromodomain-containing protein 4, this antibody supports studies of chromatin engagement, transcriptional activation, epigenetic regulation, and disease-associated BRD4 signaling pathways.

Application Notes

Titration of the BRD4 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 1-30 from the human protein was used as the immunogen for this BRD4 antibody.

Storage

Aliquot the BRD4 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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