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BRDT Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7115a

Product Information

Application	WB, E
Primary Accession	Q58F21
Other Accession	Q4R8Y1, O14789
Reactivity	Human
Predicted	Monkey
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB8492
Calculated MW	107954
Antigen Region	1-30

Additional Information

Gene ID	676
Other Names	Bromodomain testis-specific protein, Cancer/testis antigen 9, CT9, RING3-like protein, BRDT
Target/Specificity	This BRDT antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human BRDT.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	BRDT Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BRDT
Function	Testis-specific chromatin protein that specifically binds histone H4 acetylated at 'Lys-5' and 'Lys-8' (H4K5ac and H4K8ac, respectively) and plays a

	key role in spermatogenesis (PubMed:22464331, PubMed:22901802). Required in late pachytene spermatocytes: plays a role in meiotic and post-meiotic cells by binding to acetylated histones at the promoter of specific meiotic and post-meiotic genes, facilitating their activation at the appropriate time (PubMed:22901802). In the post-meiotic phase of spermatogenesis, binds to hyperacetylated histones and participates in their general removal from DNA (PubMed:22901802). Also recognizes and binds a subset of butyrylated histones: able to bind histone H4 butyrylated at 'Lys-8' (H4K8ac), while it is not able to bind H4 butyrylated at 'Lys-5' (H4K5ac) (By similarity). Also acts as a component of the splicing machinery in pachytene spermatocytes and round spermatids and participates in 3'-UTR truncation of specific mRNAs in post-meiotic spermatids (By similarity). Required for chromocenter organization, a structure comprised of peri-centromeric heterochromatin.
Cellular Location	Nucleus. Note=Detected on chromatin {ECO:0000250|UniProtKB:Q91Y44}
Tissue Location	Testis-specific. A 3-fold higher expression is seen in adult testis than in embryo testis. Expression seems to be correlated with histone H4 hyperacetylation during the haploid phase of spermatogenesis (spermiogenesis). No expression, or very low expression is seen in patients' testes with abnormal spermatogenesis. Expressed in cancers such as non-small cell lung cancer and squamous cell carcinomas of the head and neck as well as of esophagus, but not in melanoma or in cancers of the colon, breast, kidney and bladder

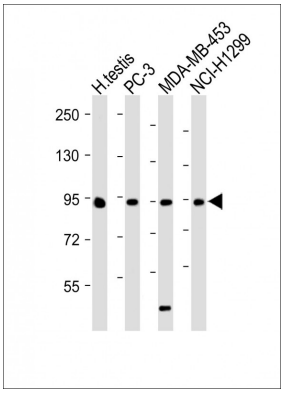
Background

BRDT is similar to the RING3 protein family. It possesses 2 bromodomain motifs and a PEST sequence (a cluster of proline, glutamic acid, serine, and threonine residues), characteristic of proteins that undergo rapid intracellular degradation. The bromodomain is found in proteins that regulate transcription. Two transcript variants encoding the same protein have been found for this gene. Transcript Variant: This variant (1) represents the longer transcript. Variants 1 and 2 both encode the same protein.

References

Pivot-Pajot, C., et al., Mol. Cell. Biol. 23(15):5354-5365 (2003).
Dhalluin, C., et al., Nature 399(6735):491-496 (1999).
Jones, M.H., et al., Genomics 45(3):529-534 (1997).

Images



All lanes : Anti-BRDT N-term at 1:2000 dilution Lane 1: Human testis lysate Lane 2: PC-3 whole cell lysate Lane 3: MDA-MB-453 whole cell lysate Lane 4: NCI-H1299 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 108 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Pathogenic Variants in Cause Acephalic Spermatozoa Syndrome
- Whole-exome sequencing identified a homozygous BRDT mutation in a patient with acephalic spermatozoa.