

BRDT Protein, Human (His, SUMO)

Cat. No.:	HY-P701714
Synonyms:	BRDT; Bromodomain testis-specific protein; Cancer/testis antigen 9; CT9; RING3-like protein
Species:	Human
Source:	E. coli
Accession:	Q58F21 (N21-E137)
Gene ID:	676
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	<p>The BRDT protein, a testis-specific chromatin factor, exhibits a distinctive affinity for histone H4 acetylated at 'Lys-5' and 'Lys-8' (H4K5ac and H4K8ac, respectively), playing a pivotal role in spermatogenesis. Essential in late pachytene spermatocytes, BRDT contributes to meiotic and post-meiotic processes by binding to acetylated histones at specific gene promoters, facilitating their activation at the appropriate developmental stages. In the post-meiotic phase, BRDT engages with hyperacetylated histones, participating in their general removal from DNA. Notably, it recognizes and binds a subset of butyrylated histones, specifically targeting H4K8ac. Beyond its chromatin-binding functions, BRDT acts as a component of the splicing machinery in pachytene spermatocytes and round spermatids, participating in 3'-UTR truncation of specific mRNAs in post-meiotic spermatids. Its significance extends to chromocenter organization, a structure comprising pericentromeric heterochromatin. BRDT establishes interactions with various mRNA splicing machinery proteins, including SRSF2, DDX5, HNRNPK, and TARDBP, as well as with P-TEFb components CDK9 and CCNT1/cyclin-T1. Additionally, it interacts with the acetylated N-terminus of histone H1, H2, H3, and H4, highlighting its intricate involvement in chromatin dynamics and gene regulation during spermatogenesis.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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