Recombinant BUD23 protein (His tag)

Catalog Number	546491
Synonyms	guanine-N(7); Bud site selection protein 23 homolog; Metastasis-related methyltransferase 1; Williams-Beuren syndrome chromosomal region 22 protein; rRNA methyltransferase and ribosome maturation factor
Species	Human
Expression System	E. coli
Accession	O43709
Molecular Weight	Predictes a molecular mass of 25.48 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 25 kDa band.

Product Information

Sequence Region	1-216
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-216 aa (O43709) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human BUD23 (18S rRNA (guanine-N(7))-methyltransferase) Fragment (aa 1-216) is a high-purity protein fragment designed for structural and biochemical studies. This soluble and stable unit retains key features of the full-length protein, which plays critical roles in ribosome biogenesis and steroid receptor coactivation, making it an essential tool for investigating RNA methylation and gene regulation mechanisms. The full-length BUD23 protein, encoded by the BUD23 gene in Homo sapiens, functions as an S-adenosyl-L-methionine-dependent methyltransferase that specifically methylates the N(7) position of guanine in 18S rRNA, requiring the adapter protein TRM112 for full activity. Beyond its catalytic role, BUD23 is involved in pre-rRNA processing and 40S ribosomal subunit biogenesis and export, independent of methyltransferase activity. It also acts as a locus-specific coactivator for glucocorticoid, mineralocorticoid, androgen, and progesterone receptors, facilitating open chromatin maintenance at gene loci like TSC22D3/GILZ and supporting histone H3 Lys-79 dimethylation. BUD23 localizes to the nucleus, nucleoplasm, cytoplasm, and perinuclear regions, with a diffuse distribution unaffected by glucocorticoid treatment, underscoring its multifunctional significance in cellular regulation and disease contexts such as Williams-Beuren syndrome.