PRODUCT INFORMATION

UHRF1 tudor-like region (human recombinant; His-tagged)

Item No. 14779

Overview and Properties

Synonyms: E3 Ubiquitin-protein Ligase UHRF1, Inverted CCAAT Box Binding Protein of 90 kDa, Nuclear Protein 95, RING Finger Protein 106, Transcription Factor ICBP90, Ubiquitin-like PHD and RING Finger Domain-containing Protein 1

Source: Recombinant protein expressed in *E. coli*. *Expressed with an N-terminal His-SUMOpro tag and used under non-exclusive license from LifeSensors, Inc. www.lifesensors.com.*

Amino Acids: 126-286 (partial protein)

Uniprot No.: Q96T88

Molecular Weight: 31.9 kDa

Storage: -80°C (as supplied; avoid freeze/thaw cycles by aliquoting protein)

Stability: ≥1 year

Purity: ***batch specific*** (≥95% estimated by SDS-PAGE)

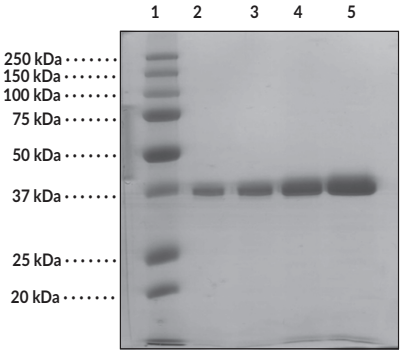
Supplied in: 50 mM Tris, pH 8.0, containing 150 mM sodium chloride, 2.2 mM potassium chloride, 10 mM β-mercaptoethanol, and 20% glycerol

Endotoxin Testing: < 1.0 EU/µg, determined by the LAL endotoxin assay

Protein Concentration: ***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: UHRF1 tudor-like region-His (1 µg)
Lane 3: UHRF1 tudor-like region-His (2 µg)
Lane 4: UHRF1 tudor-like region-His (5 µg)
Lane 5: UHRF1 tudor-like region-His (10 µg)

Representative gel image shown; actual purity may vary between each batch.

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Description

Tudor domains (or tudor-like regions) are small protein structural motifs of ~50 amino acids related to the "Royal Family" of methyl readers, which also includes chromo, malignant brain tumor (MBT), PWWP, and Agenet-like domains.[1-2] Tudor domains occur either alone, in tandem, or with other domains and are found in many proteins that are involved in RNA metabolism, germ cell development, transposon silencing, DNA damage response, histone modification, and chromatin remodeling.[3] The tudor domains recognize symmetric methylated arginine or methylated lysine residues.[4-7]

Ubiquitin-like with PHD and ring finger domains 1 (UHRF1) is a multidomain-containing nuclear protein known to bind chromatin and participate in the maintenance of DNA methylation.[8-9] The SET and RING associated domain of UHRF1, also called the YDG motif, binds methyl cytosines, while trimethylated histone H3 lysine 9 (H3K9me3) and unmethylated histone H3 Arginine 2 (H3R2me0) are recognized by the tandem tudor-like domains and the PHD domain, respectively.[10-15] Some evidence suggests the tandem tudor-like region and adjacent PHD domain may operate together to recognize H3K9me3.[16] The combinatorial recognition of the histone tail region and hemi-methylated DNA functions to regulate gene silencing by directly interacting with DNA (cytosine-5)-methyltransferase 1.[17-19] UHRF1 also posseses E3 ubiquitin ligase activity toward histone H3 and the tumor suppressor promyelocytic leukemia protein.[13,20] Binding of UHRF1 tandem tudor-like domains to H3K9me3 is involved in heterochromatin formation and maintenance.[13]

This protein product contains the tudor-like region of UHRF1.

References

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