

Recombinant Human Methylcytosine dioxygenase TET1(TET1) ,partial,Yeast

Catalog No: tccp49690



Available Sizes

Size: 1mg

Size: 500μg



Specifications

Species Reactivity:

Homo sapiens (Human)

Tissue Specificity: Expressed in fetal heart, lung and brain, and in adult skeletal muscle, thymus and ovary.

Not detected in adult heart, lung or brain. Up-regulated in glioblastoma cells (at protein level)(PubMed:252)

Storage Buffer:

Tris-based buffer, 50% glycerol

Source:

Yeast

Purity / Grade:

>85% (SDS-PAGE)

Storage Instruction:

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.

Alternative Names:

Methylcytosine dioxygenase TET1 EC= 1.14.11.n2 Alternative name(s): CXXC-type zinc finger protein 6 Leukemia-associated protein with a CXXC domain Ten-eleven translocation 1 gene protein

Tags:

The following tags are available. N-terminal His-tagged Tag-Free

Cellular Location:

Nucleus

Notes

Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Product Description

Dioxygenase that catalyzes the conversion of the modified genomic base 5-methylcytosine (5mC) into 5-hydroxymethylcytosine (5hmC) and plays a key role in active DNA demethylation. Also mediates subsequent conversion of 5hmC into 5-formylcytosine (5fC), and conversion of 5fC to 5-carboxylcytosine (5caC). Conversion of 5mC into 5hmC, 5fC and 5caC probably constitutes the first step in cytosine demethylation. Methylation at the C5 position of cytosine bases is an epigenetic modification of the mammalian genome which plays an important role in transcriptional regulation. In addition to its role in DNA demethylation, plays a more general role in chromatin regulation. Preferentially binds to CpG-rich sequences at promoters of both transcriptionally active and Polycomb-repressed genes. Involved in the recruitment of the O-GlcNAc transferase OGT to CpG-rich transcription start sites of active genes, thereby promoting histone H2B GlcNAcylation by OGT. Also involved in transcription repression of a subset of genes through recruitment of transcriptional repressors to promoters. Involved in the balance between pluripotency and lineage commitment of cells it plays a role in embryonic stem cells maintenance and inner cell mass cell specification. Plays an important role in the tumorigenicity of glioblastoma cells. TET1-mediated production of 5hmC acts as a recruitment signal for the CHTOP-methylosome complex to selective sites on the chromosome, where it methylates H4R3 and activates the transcription of genes involved in glioblastomagenesis



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