

## Recombinant SETD7 protein

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**Catalog No:** 31496, 31900

**Expressed In:** Baculovirus

**Quantity:** 20, 1000 µg

**Concentration:** 0.2 µg/µl

**Source:** Human

**Buffer Contents:** Full length recombinant SETD7 protein was expressed in Sf9 cells and is supplied in 25 mM Hepes pH 7.5, 300 mM NaCl, 5% Glycerol, 0.04% Triton X-100, 0.2 mM TCEP.

**Background:** **SETD7** (SET Domain Containing (Lysine Methyltransferase) 7) is a histone methyltransferase that specifically monomethylates 'Lys-4' of histone H3. H3 'Lys-4' methylation represents a specific tag for epigenetic transcriptional activation. Plays a central role in the transcriptional activation of genes such as collagenase or insulin. Recruited by IPF1/PDX-1 to the insulin promoter, leading to activate transcription. Has also methyltransferase activity toward non-histone proteins such as p53/TP53, TAF10, and possibly TAF7 by recognizing and binding the [KR]-[STA]-K in substrate proteins. Monomethylates 'Lys-189' of TAF10, leading to increase the affinity of TAF10 for RNA polymerase II. Monomethylates 'Lys-372' of p53/TP53, stabilizing p53/TP53 and increasing p53/TP53-mediated transcriptional activation.

**Protein Details:** Recombinant SETD7 protein (accession number NP\_085151.1) was expressed in Sf9 cells and contains an N-terminal FLAG-Tag with a molecular weight of 41.7 kDa. The recombinant protein is >80% pure by SDS-PAGE.

**Application Notes:** Recombinant SETD7 is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

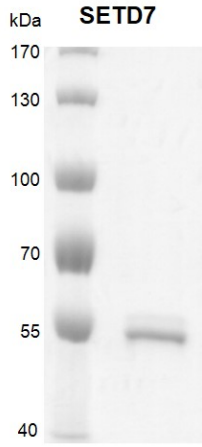
**HMT Assay Conditions:** 1 µM H3K4me0 (1-21aa) peptide was incubated with different concentrations of recombinant SETD7 protein in reaction buffer containing 50 mM TrisCl pH 8.6, 0.02% Triton X-100, 2 mM MgCl<sub>2</sub>, 1 mM TCEP, 100 µM SAM for 2 hours at room temperature. Activity was detected by HTRF and Fluorography.

### References:

This product was used in the following publications:  
*Cel Stem Cell* (2019). 22(3):428-444. PMID: 29499155.

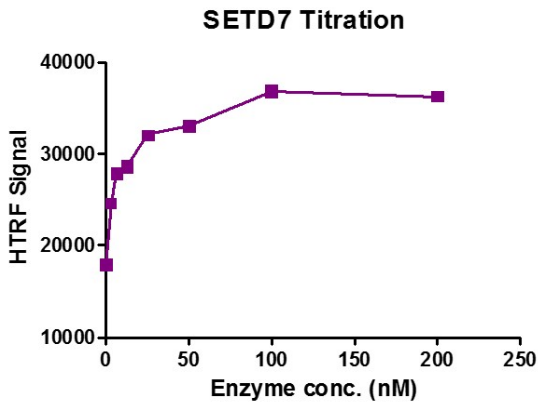
**Storage and Guarantee:** Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



**Recombinant SETD7 protein gel.**

SETD7 protein was run on an 8% SDS-PAGE gel and stained with Coomassie blue.

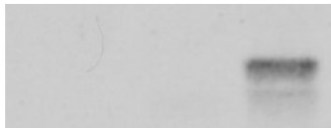


**Recombinant SETD7 protein HTRF activity assay.**

1  $\mu$ M H3K4me0 (1-21aa) peptide was incubated with SETD7 in reaction buffer for 2 hour at room temperature. SETD7 enzyme was used in a HTRF assay to determine enzyme linearity. Methylated peptide (H3K4me1) was measured using H3K4me1-specific antibody.

SETD7	-	+	+
Calf Thymus Octamers	+	-	+

<sup>3</sup>H Fluorography



H3

**Recombinant SETD7 protein activity assay.**

2 ug Calf Thymus Octamers was incubated with 0.5 ug SETD7 protein in reaction buffer containing radioactive 3H-SAM for 2 hour at room temperature. Activity was detected by fluorography.