

## Recombinant PHF8 protein

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**Catalog No:** 31435, 31835

**Expressed In:** Baculovirus

**Quantity:** 20 µg

**Concentration:** 0.6 µg/µl

**Source:** Human

**Buffer Contents:** Recombinant PHF8 protein is supplied at a concentration of 0.6 µg/µl in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 5% glycerol, 0.04% Triton X-100, 0.2 mM TCEP.

**Background:** PHF8 (PHD finger protein 8), also known as **Lysine (K)-specific demethylase 7B (KDM7B)** and **JmjC domain-containing histone demethylation protein 1D-B (JHDM1DB)**, is a member of the **JmjC-containing (Jumonji-C)** class of **histone demethylase** proteins that are involved in the regulation of genome function through the removal of methyl groups from histones. PHF8 has two N-terminal domains, a **PHD finger** that binds trimethylated lysine 4 of histone H3 (H3K4me3) and a Jumonji domain that demethylates monomethylated H3 Lys9 (H3K9me1), Histone H3 dimethyl Lys9 (H3K9me2), Histone H3 dimethyl Lys27 (H3K27me2) (which are all modifications associated with transcriptional repression) and also Histone H3 dimethyl Lys36 (H3K36me2). PHF8 depletion in mammalian neuronal cells results in decreased expression of follistatin and increased methylation of H3K9 and H3K27. It has also been suggested to function in gene silencing during brain development.

**Protein Details:** Recombinant PHF8 (accession number NP\_055922.1) was expressed in Sf9 and contains an N-terminal FLAG tag with a molecular weight of 121.1 kDa.

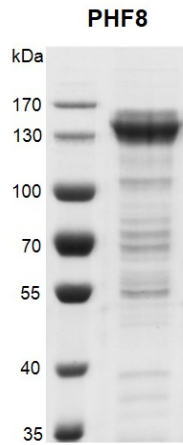
**Application Notes:** Recombinant PHF8 is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

**Specific Activity:** H3K9me2, H3K36me2 and H4K20me1 demethylase.

**Histone Demethylase Assay Conditions:** 1 µM H3K9me1 or H3K4me3K9me1 peptide was incubated with different concentrations of recombinant PHF8 protein in reaction buffer containing 50 mM HEPES-NaOH pH 7.5, 50 µM 2OG, 50 µM Ascorbate, 25 µM (NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>·6H<sub>2</sub>O, 1 mM TCEP for 1 hour at room temperature. HTRF reaction was used for detection.

**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.

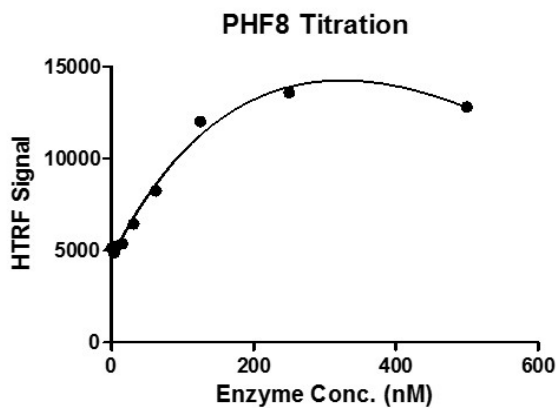


**Recombinant PHF8 protein gel.**

PHF8 protein was run on a 8% SDS-PAGE gel and stained with Coomassie Blue.

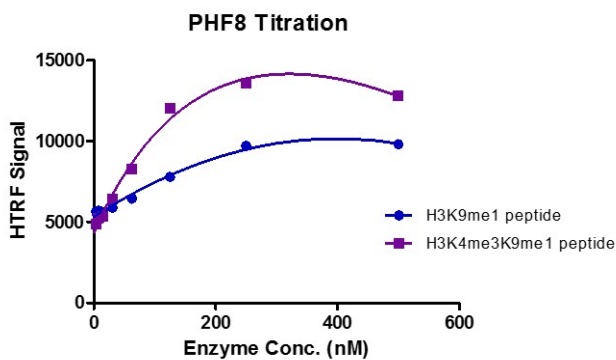
MW: 121.1 kDa

Purity: > 70%



**HTRF assay for Recombinant PHF8 protein activity.**

1  $\mu$ M H3K4me3K9me1 peptide was incubated with PHF8 / KDM7B protein in reaction buffer for 1 hour at room temperature. Anti-H3K9me0 antibody was used to detect reaction product.



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