

# Product Information

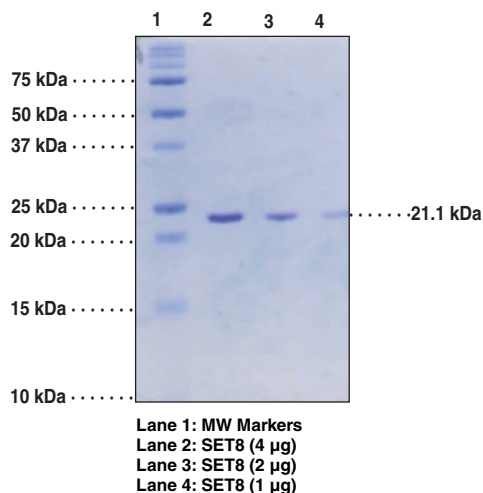
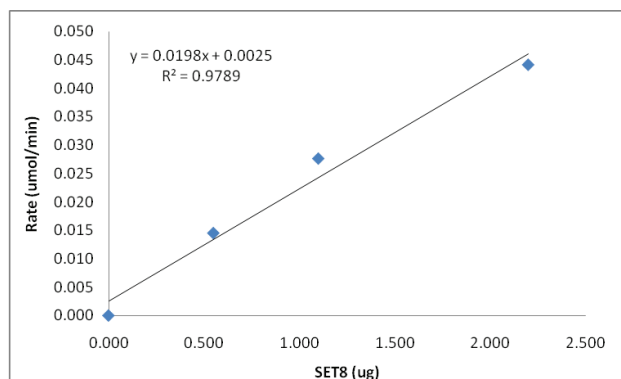


## SET8 (human recombinant)

Item No. 10319 • Lot No. XXXX

<b>Synonyms:</b>	KMT5a, PR-Set7, SETD8, SET domain containing (lysine methyltransferase) 8
<b>Source:</b>	Recombinant N-terminal Hexahistidine-tagged SET8 amino acids 190-352, purified from <i>E. coli</i> , NP_065115
<b>M<sub>r</sub>:</b>	21.1 kDa
<b>Purity:</b>	≥95%
<b>Stability:</b>	≥6 months at -80°C; avoid freeze/thaw cycles by aliquoting the protein and storing at -80°C
<b>Supplied in:</b>	50 mM sodium phosphate, pH 7.2, containing 100 mM NaCl and 20% glycerol
<b>Protein Concentration:</b>	XX mg/ml
<b>Activity:</b>	XX nmol/min/ml
<b>Specific Activity:</b>	XX nmol/min/mg; determined using 5 mM H4K20 peptide (AKRHRKVLRD) at 37°C using Cayman's Methyltransferase Colorimetric Assay Kit (Item No. 700140)

Methylation of lysine can promote transcriptional activation or repression and is critical in regulating histone function. Lysine residues can be mono-, di-, or tri-methylated.<sup>1</sup> SET8 selectively mono-methylates histone H4 at lysine 20, an event proven to have an important role in chromatin structure and transcriptional activation.<sup>3,4</sup> SET8 is also a novel regulator of p53, mono-methylating lysine 382 of the tumor suppressor.<sup>5</sup> SET8's ability to suppress p53 transcriptional activity implies that it may play a significant role in tumorigenesis.



## References

1. Bhaumik, S.R., Smith, E., and Shilatifard, A. Covalent modifications of histones during development and disease pathogenesis. *Nature Structural & Molecular Biology* **14**(11), 1008-1016 (2007).
2. Couture, J.-F., Collazo, E., Brunzelle, J.S., et al. Structural and functional analysis of SET8, a histone H4 Lys-20 methyltransferase. *Genes & Development* **19**, 1455-1465 (2005).
3. Yin, Y., Liu, C., Tsai, S.N., et al. SET8 recognizes the sequence RHRK20VLRDN within the N terminus of histone H<sub>4</sub> and mono-methylates lysine 20. *J. Biol. Chem.* **280**(34), 30025-30031 (2005).
4. Shi, X., Kachirskaia, I., Yamaguchi, H., et al. Modulation of p53 function by SET8-mediated methylation at lysine 382. *Mol. Cell.* **27**(4), 636-646 (2007).

## Related Products

LSD1 (human recombinant) - Item No. 10245 • SET7/9 (human recombinant) - Item No. 10320 • JMJD2D (human recombinant) - Item No. 10335 • PRMT1 (human recombinant) - Item No. 10350 • G9a (human recombinant, partial) - Item No. 10353 • Histone H4K20 Peptide - Item No. 10380 • WDR5 (human recombinant) - Item No. 10944 • Ash2L (human recombinant) - Item No. 10946 • Methyltransferase Colorimetric Assay Kit - Item No. 700140 • Methyltransferase Fluorometric Assay Kit - Item No. 700150

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

## MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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