

# PRODUCT INFORMATION



## SET8 (human, recombinant)

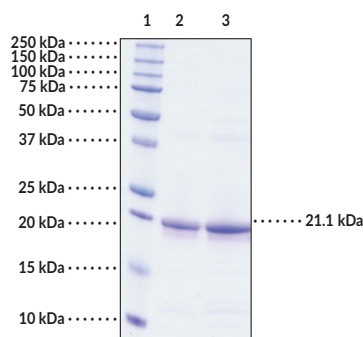
Item No. 10319

### Overview and Properties

<b>Synonyms:</b>	KMT5a, PR-Set7, SETD8, SET domain-containing (lysine methyltransferase) 8
<b>Source:</b>	Active recombinant N-terminal hexahistidine-tagged protein purified from <i>E. coli</i> .
<b>Amino Acids:</b>	190-352
<b>Uniprot No.:</b>	Q9NQR1
<b>Molecular Weight:</b>	21.1 kDa
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥6 months
<b>Purity:</b>	<b>batch specific</b> (≥90% estimated by SDS-PAGE)
<b>Supplied in:</b>	50 mM sodium phosphate, pH 7.2, with 100 mM sodium chloride and 20% glycerol
<b>Protein Concentration:</b>	<b>batch specific</b> mg/ml
<b>Activity:</b>	<b>batch specific</b> U/ml
<b>Specific Activity:</b>	<b>batch specific</b> ; U/mg; determined using 50 μM substrate peptide (AKRHRKVLRD) at 37°C using Cayman's Methyltransferase Colorimetric Assay Kit (Item No. 700140).

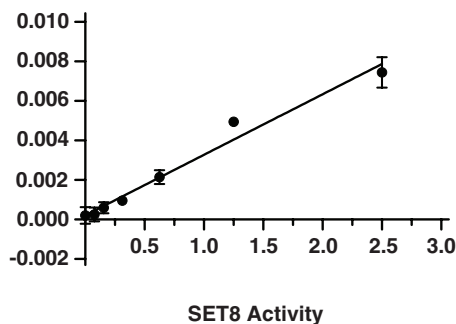
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Images



Lane 1: MW Markers  
Lane 2: SET8 (2 μg)  
Lane 3: SET8 (4 μg)

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



SET8 activity was determined using Cayman's Methyltransferase Colorimetric Assay Kit (Item No. 700140)

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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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>2,3</sup> SET8 is also a novel regulator of p53, mono-methylating lysine 382 of the tumor suppressor.<sup>4</sup> SET8's ability to suppress p53 transcriptional activity implies that it may play a significant role in tumorigenesis.

## References

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1. Bhaumik, S.R., Smith, E., and Shilatifard, A. Covalent modifications of histones during development and disease pathogenesis. *Nat. Struct. Mol. Biol.* **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 H4 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. *Molecular Cell* **27(4)**, 636-646 (2007).

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