

## Fibrillarin (GST)

**CATALOG NO.:** HMT-11-184

**LOT NO.:**

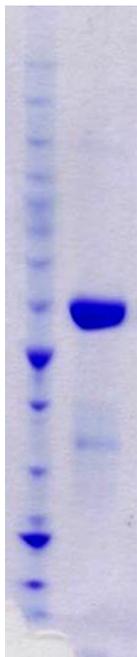
**DESCRIPTION:** Human recombinant fibrillarin (residues 2-321; Genbank Accession # NM\_001436; MW= 61.3 kDa) expressed as an N-terminal GST-fusion protein in *E. coli*. Fibrillarin is a component of nucleolar ribonucleoprotein complexes including snoRNPs (small nucleolar ribonucleoproteins) and Cajal bodies. As part of the C/D snoRNPs, fibrillarin functions as the catalytic subunit in the 2'-O-methylation of ribosomal RNAs<sup>1</sup> (see also review<sup>2</sup>). In addition, fibrillarin has recently been shown to catalyze methylation of histone H2A glutamine-104, a modification restricted to the nucleolus and linked to RNA Pol I transcriptional activity on rDNA<sup>3</sup>. A distinct protein subcomplex comprising fibrillarin, SF2A-p32 and the arginine methyltransferases PRMT1 and PRMT5 has been described<sup>4</sup> and fibrillarin's N-terminal glycine and arginine-rich (GAR) domain, including in the context of full-length fibrillarin<sup>5</sup>, is a substrate for various PRMTs (see PRMT5 data in figure below).

**PURITY:** >80% by SDS-PAGE

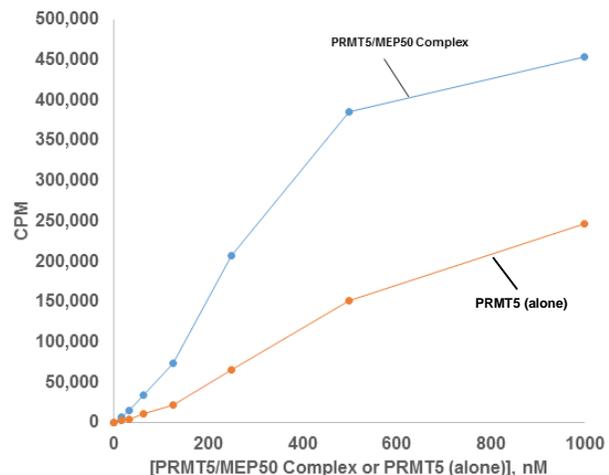
**SUPPLIED AS:**  $\mu$ g/ $\mu$ L in 50 mM Tris HCl, pH 7.5, 500 mM NaCl, 1 mM TCEP, 10 % glycerol as determined by OD<sub>280</sub>

**STORAGE:** -70°C. Thaw quickly and store on ice before use. The remaining, unused, undiluted protein should be snap frozen, for example in a dry/ice ethanol bath or liquid nitrogen. Minimize freeze/thaws if possible, but very low volume aliquots (<5  $\mu$ l) or storage of diluted enzyme is not recommended.

**REFERENCES:** 1) A.D. Omer *et al. Proc. Natl. Acad. Sci. USA* 2002 **99** 5289; 2) S.L. Reichow *et al. Nucleic Acids Res.* 2007 **35** 1452; 3) P. Tessarz *et al. Nature* 2014 **505** 564; 4) M. Yanagida *et al. J. Biol. Chem.* 2004 **279** 1607; 5) C.H. Lin *et al. J. Protein Chem.* 2002 **21** 447



**Coomassie blue-stained SDS-PAGE (4-12% acrylamide) of 5  $\mu$ g of Fibrillarin (GST).** MW markers (left) are, from top, 220, 160, 120, 100, 90, 80, 70, 60, 50, 40, 30, 25, 20, 15, & 10 kDa.



**Methyltransferase Activity of PRMT5/MEP50 Complex and PRMT5 (alone) with Fibrillarin (GST).** Methylation determined as TCA-precipitable counts in a scintillation/filter plate assay. Reactions were 25  $\mu$ L, 60 min., 30°C, with 1  $\mu$ M [<sup>3</sup>H]-SAM and 0.05 mg/mL Fibrillarin (GST).

This product is NOT intended for therapeutic or diagnostic use in animals or in humans.