

O. sativa cv. Koshi ---MAHAAATGALAPLHPLLRCSTRHLCASASPRAGLCLHHHRRRRSSRRTKLAVRAM
O. sativa cv. Kasa ---MAHAAATGALAPLHPLLRCSTRHLCASASPRAGLCLHHHRRRRSSRRTKLAVRAM
Z. mays -----MAHAALLHCSQSSRSLAACRRGSHYRAPSHVPRHSRRLRRAVVSRLR
T. aestivum -----MANSAALLHSLSTAWTPRRRLDRASATRLAPSPGLSCRSSSRPTRSVR--P
G. max -----
A. thaliana -----MKATLAAPSSLTSLPYRTNSSFGSKSSLLFRSPSSSSSVSMTT
S. lycopersicum MGSQCYSAYSISQSLNPTCPSSSSSSSVIFTLLKPQIHRRRIITCCNSSRRRRRMASVAAMN
H. annuus -----MATTAVGVSATP
Synechocystis sp. -----

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O. sativa cv. Koshi APTLSSSSSTAATAAPPGLKEGIAGLYDESSGVWESIWGEHMHGFFYDAGEAASMSD--HRR
O. sativa cv. Kasa APTLSSSSSTAATAAPPGLKEGIAGLYDESSGVWESIWGEHMHGFFYDAGEAASMSD--HRR
Z. mays PMASSTAQAPATAPPGLKEGIAGLYDESSGLWENIWGDHMHGFFYDSSEAASMSD--HRR
T. aestivum MASSTTAARADAAPPGLKEGIAGLYDESSGLWESIWGEHMHGFFYDSGEAASMSD--HRR
G. max -MSVEQKAAGKEEEGKLQKGLAEFYDESSGIWENIWGDHMHGFFYDPDSTVSVD--HRA
A. thaliana TRGNVAVAAAATSTEALRKGLAEFYNETSGLWEEIWGDHMHGFFYDPDSSVQLSDSGHKE
S. lycopersicum AVSSSSVEVGIONQOQLKKGIAADLYDESSGIWEDIWGDHMHGFFYEPKSSVVELSD--HRA
H. annuus MTEKLTAADDDQOQKLKGLAEFYDESSGMWENIWGEHMHGFFYNSDDVVELSD--HRS
Synechocystis sp. -----MASATIASADLYEKIKNFYDDSSGLWEDVWGEHMHGFFYGPHTYRIDR--RQ

O. sativa cv. Koshi AQIRMIEESLAFAAVP--DDAEKKPKSVVDVCGGIGGSSRYLANKYGAQCYGITLSPVQA
O. sativa cv. Kasa AQIRMIEESLAFAAVP--DDAEKKPKSVVDVCGGIGGSSRYLANKYGAQCYGITLSPVQA
Z. mays AQIRMIEEALAFAGVPASDDPEKTPKTIVDVCGGIGGSSRYLANKYGAQCTGTTLSPVQA
T. aestivum AQIRMIEEALAFAAVP--DDPTNKPKTIVDVCGGIGGSSRYLANKYGAQCSGITLSPVQA
G. max AQIRMIEESLRFASLLS--ENPSKWPKSIVDVCGGIGGSSRYLANKYGAQSGITLSPVQA
A. thaliana AQIRMIEESLRFAGVTD--EEEEKKIKKVVVDVCGGIGGSSRYLANKYGAQSGITLSPVQA
S. lycopersicum AQIRMIEQALSFAAIS--EDPAKKPTSIVDVCGGIGGSSRYLANKYGAQAGITLSPVQA
H. annuus AQIRMIEQALTFASVS--DDPEKKPKTIVDVCGGIGGSSRYLANKYGAQCHGITLSPVQA
Synechocystis sp. AQIDLIKELLAWAVPQN----SAKPRKILDLGCGIGGSSLYLAQQHQAQEVMGASLSPVQV

O. sativa cv. Koshi ERGNALAAEQGLSDKVSFQVGDALQFPFDGQFDLVWSMESGEHMPDKRQFVSELARVAA
O. sativa cv. Kasa ERGNALAAEQGLSDKVSFQVGDALQFPFDGQFDLVWSMESGEHMPDKRQFVSELARVAA
Z. mays ERGNALAAAQGLSDQVTLQVADALQFPFDGQFDLVWSMESGEHMPDKRKQFVSELARVAA
T. aestivum ERGNALAAAQGLSDKASFOVADALQFPFDGQFDLVWSMESGEHMPNKKQFVSELARVAA
G. max QRANSLAAAQGLADKVSFEVADALQFPFDGKFDLVWSMESGEHMPDKAKFVVELARVAA
A. thaliana KRANDLAAAQSLAHKASFOVADALQFPFEDGKFDLVWSMESGEHMPDKAKFVKELVRVAA
S. lycopersicum ERAQALADAQGLCDKVSFQVADALNQPFPDGQFDLVWSMESGEHMPNKEKQFVELARVAA
H. annuus ERANALAAAQGLADKVSFOVADALNQPFPDGKFDLVWSMESGEHMPDKLKFVSELTRVAA
Synechocystis sp. ERAGERARALGLGSTCQFOVANALDLPFASDSFDWVWSLESGEHMPNKAQFLQEAWRVLK

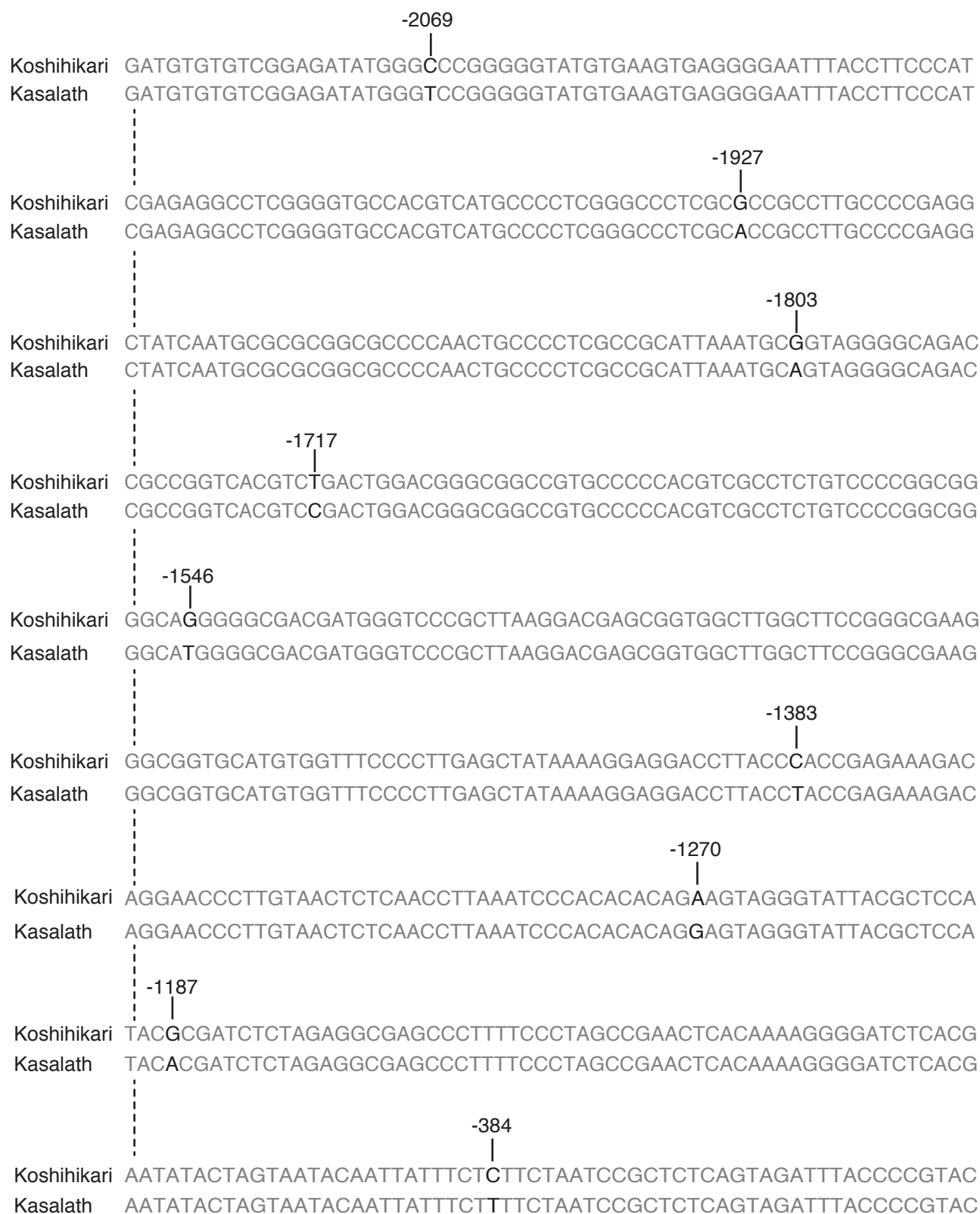
O. sativa cv. Koshi PGARI IIVTWCHRNLEPSEESLKPDELNLLKRICDAYYLPDWCSPSDYVKIAESLSLEDI
O. sativa cv. Kasa PGARI IIVTWCHRNLEPSEESLKPDELNLLKRICDAYYLPDWCSPSDYVKIAESLSLEDI
Z. mays PGGTII IIVTWCHRNLDPSSETSLKPDELSLLRRICDAYYLPDWCSPSDYVNI AKSLSLEDI
T. aestivum PGATII IIVTWCHRNLAPEESLKPDELNLLKKICDAYYLPDWCSPSDYVKIAESLSLEDI
G. max PGGTII IIVTWCHRDLPDEOSLPWEQDLKKICDSYYPWAWCSTSDYVKLLESLSLODI
A. thaliana PGGRI IIVTWCHRNLSAGEEALOPWEQNLDKICKTFYLPWAWCSTDDYVNLQSHSLQDI
S. lycopersicum PGGTII IIVTWCHRDLSPEESLTPPEEKELNKKICKAFYLPWAWCSTADYVKLLQSNLSLODI
H. annuus PGATII IIVTWCHRDLPNPEKSLRPEEEKILNKKICSSFYLPWAWCSTADYVKLLESLSLODI
Synechocystis sp. PGGRI IILATWCHRPIDP GNGPLTADERRHLQATVDVYCLPYVVS LPDYEATARECGFGEI

O. sativa cv. Koshi RTADWSENVAPFWPVAVIKSALTWKGLTSLRSGWKTIRGAMVMPLMIEGYKKGLIKFTII
O. sativa cv. Kasa RTADWSENVAPFWPVAVIKSALTWKGLTSLRSGWKTIRGAMVMPLMIEGYKKGLIKFTII
Z. mays KTADWSENVAPFWPVAVIKSALTWKGFSTSLTTGWKTIRGAMVMPLMIQGYKKGLIKFTII
T. aestivum KTADWSENVAPFWPVAVIQSALTWKGLTSLRSGWKTIRGAMVMPLMIQGYKKGLIKFSII
G. max KSADWS PFVAPFWPVAVIRALTWNGLTSLRSGDKTIK GALAMPLMIKGYKKDLIKFSII
A. thaliana KCADWSENVAPFWPVAVIRALTWKGLVSLRSGMKS IKGALTMPLMIEGYKKGVIKFGII
S. lycopersicum KAEDWSENVAPFWPVAVIKSALTWKGFSTSLRSGWKTIRGAMVMPLMIEGYKKGLIKFAII
H. annuus KSADWSGNVAPFWPVAVIKTALS WKGITSLRSGWKSIRGAMVMPLMIEGFKKDVIKFSII
Synechocystis sp. KTADWSVAVAPFWDRVIESAFDPRVLWALGOAGPKIINAALCLRLMKWGYERGLVRFGLL

O. sativa cv. Koshi TCRKPE TTQ-----
O. sativa cv. Kasa TCRKPE TTQ-----
Z. mays TCRKPGAA-----
T. aestivum TCHKPQAAIEGEPEAASPRV
G. max TCRKPE-----
A. thaliana TCQKPL-----
S. lycopersicum TCRKPE-----
H. annuus TCKKPE-----
Synechocystis sp. TGIKPLV-----

Supplementary Figure 1. Amino acid sequence alignment of γ-TMT proteins.

Lines upper amino acid sequences represented SAM-binding domain. Arrow head indicated difference between Koshihikari and Kasalath.



Supplementary Figure.2 .

Single nucleotide polymorphisms(SNPs) between Koshihirari and Kasalath in γ -TMT promoter region.