

Trimethylguanosine synthase Recombinant Protein | TGS1 recombinant protein

Recombinant Human Trimethylguanosine synthase

CATALOG # AAA117597	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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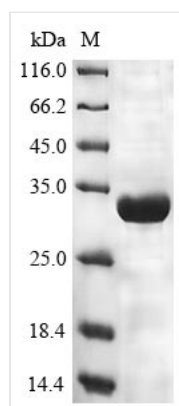
PRODUCT SYNONYMS

Trimethylguanosine synthase; Recombinant Human Trimethylguanosine synthase; CLL-associated antigen KW-2; Cap-specific guanine-N2 methyltransferase; Hepatocellular carcinoma-associated antigen 137; Nuclear receptor coactivator 6-interacting protein; PRIP-interacting protein with methyltransferase motif; PIMT; PIPMT; TGS1 recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	713-853aa; Partial
Sequence	MRVIAIDIDP VKIALARNNA EVYGIADKIE FICGDFLLLA SFLKADVFL SPPWGGPDYA TAETFDIRTM MSPDGFEIFR LSKKITNNIV YFLPRNADID QVASLAGPGG QVEIEQNFLN NKLKTITAYF GDLIRRPASE T
Production Note	Special Offer: The E Coli host-expressed protein is manufactured from a stock plasmid containing the protein gene. E Colihost-expressed protein is stocked in different unit sizes ranging from as small as 10 ug to as large as 1 mg. Bulk inventory is also available. The E Coli host-expressed protein has been ordered over and over again by researchers and has stood the test of time as both a robust protein and important target for the research community. It is part of our new program to make our most popular protein targets and corresponding hosts available in expanded unit sizes and with a quick processing time. Select E Coli host-expressed protein for the fastest delivery among all hosts. Please contact our or email to for more details.
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for TGS1 recombinant protein	Catalyzes the 2 serial methylation steps for the conversion of the 7-monomethylguanosine (m7G) caps of snRNAs and snoRNAs to a 2,2,7-trimethylguanosine (m(2,2,7)G) cap structure. The enzyme is specific for guanine, and N7 methylation must precede N2 methylation. Hypermethylation of the m7G cap of U snRNAs leads to their concentration in nuclear foci, their colocalization with coilin and the formation of canonical Cajal bodies (CBs). Plays a role in transcriptional regulation.
Product Categories/Family for TGS1 recombinant protein	Epigenetics and Nuclear Signaling

References

Cloning and characterization of PIMT, a protein with a methyltransferase domain, which interacts with and enhances nuclear receptor coactivator PRIP function. Zhu Y.-J., Qi C., Cao W.-Q., Yeldandi A.V., Rao M.S., Reddy J.K. *Proc. Natl. Acad. Sci. U.S.A.* 98:10380-10385(2001)

Identification of tumor-associated antigens in chronic lymphocytic leukemia by SEREX. Krackhardt A.M., Witzens M., Harig S., Hodi F.S., Zauls A.J., Chessia M., Barrett P., Gribben J.G. *Blood* 100:2123-2131(2002)

Large scale identification of human hepatocellular carcinoma-associated antigens by autoantibodies. Wang Y., Han K.-J., Pang X.-W., Vaughan H.A., Qu W., Dong X.-Y., Peng J.-R., Zhao H.-T., Rui J.-A., Leng X.-S., Cebon J., Burgess A.W., Chen W.-F. *J. Immunol.* 169:1102-1109(2002)

DNA sequence and analysis of human chromosome 8. Nusbaum C., Mikkelsen T.S., Zody M.C., Asakawa S., Taudien S., Garber M., Kodira C.D., Schueler M.G., Shimizu A., Whittaker C.A., Chang J.L., Cuomo C.A., Dewar K., FitzGerald M.G., Yang X., Allen N.R., Anderson S., Asakawa T., Blechschmidt K., Bloom T., Borowsky M.L., Butler J., Cook A., Corum B., DeArellano K., DeCaprio D., Dooley K.T., Dorris L. III, Engels R., Gloeckner G., Hafez N., Hagopian D.S., Hall J.L., Ishikawa S.K., Jaffe D.B., Kamat A., Kudoh J., Lehmann R., Lokitsang T., Macdonald P., Major J.E., Matthews C.D., Mauceli E., Menzel U., Mihalev A.H., Minoshima S., Murayama Y., Naylor J.W., Nicol R., Nguyen C., O'Leary S.B., O'Neill K., Parker S.C.J., Polley A., Raymond C.K., Reichwald K., Rodriguez J., Sasaki T., Schilhabel M., Siddiqui R., Smith C.L., Sneddon T.P., Talamas J.A., Tenzin P., Topham K., Venkataraman V., Wen G., Yamazaki S., Young S.K., Zeng Q., Zimmer A.R., Rosenthal A., Birren B.W., Platzer M., Shimizu N., Lander E.S. *Nature* 439:331-335(2006)

SEREX-defined rhabdomyosarcoma antigens. Behrends U., Gotz C., Mautner J. Complete sequencing and characterization of 21,243 full-length human cDNAs. Ota T., Suzuki Y., Nishikawa T., Otsuki T., Sugiyama T., Irie R., Wakamatsu A., Hayashi K., Sato H., Nagai K., Kimura K., Makita H., Sekine M., Obayashi M., Nishi T., Shibahara T., Tanaka T., Ishii S., Yamamoto J., Saito K., Kawai Y., Isono Y., Nakamura Y., Nagahari K., Murakami K., Yasuda T., Iwayanagi T., Wagatsuma M., Shiratori A., Sudo H., Hosoiri T., Kaku Y., Kodaira H., Kondo H., Sugawara M., Takahashi M., Kanda K., Yokoi T., Furuya T., Kikkawa E., Omura Y., Abe K., Kamihara K., Katsuta N., Sato K., Tanikawa M., Yamazaki M., Ninomiya K., Ishibashi T., Yamashita H., Murakawa K., Fujimori K., Tanai H., Kimata M., Watanabe M., Hiraoka S., Chiba Y., Ishida S., Ono Y., Takiguchi S., Watanabe S., Yosida M., Hotuta T., Kusano J., Kanehori K., Takahashi-Fujii A., Hara H., Tanase T.-O., Nomura Y., Togiya S., Komai F., Hara R., Takeuchi K., Arita M., Imose N., Musashino K., Yuuki H., Oshima A., Sasaki N., Aotsuka S., Yoshikawa Y., Matsunawa H., Ichihara T., Shiohata N., Sano S., Moriya S., Momiyama H., Satoh N., Takami S., Terashima Y., Suzuki O., Nakagawa S., Senoh A., Mizoguchi H., Goto Y., Shimizu F., Wakebe H., Hishigaki H., Watanabe T., Sugiyama A., Takemoto M., Kawakami B., Yamazaki M., Watanabe K., Kumagai A., Itakura S., Fukuzumi Y., Fujimori Y., Komiyama M., Tashiro H., Tanigami A., Fujiwara T., Ono T., Yamada K., Fujii Y., Ozaki K., Hirao M., Ohmori Y., Kawabata A., Hikiji T., Kobatake N., Inagaki H., Ikema Y., Okamoto S., Okitani R., Kawakami T., Noguchi S., Itoh T., Shigeta K., Senba T., Matsumura K., Nakajima Y., Mizuno T., Morinaga M., Sasaki M., Togashi T., Oyama M., Hata H., Watanabe M., Komatsu T., Mizushima-Sugano J., Satoh T., Shirai Y., Takahashi Y., Nakagawa K., Okumura K., Nagase T., Nomura N., Kikuchi H., Masuho Y., Yamashita R., Nakai K., Yada T., Nakamura Y., Ohara O., Isogai T., Sugano S. *Nat. Genet.* 36:40-45(2004)

Mammalian and yeast U3 snoRNPs are matured in specific and related nuclear compartments. Verheggen C., Lafontaine D.L.J., Samarsky D., Mouaikel J., Blanchard J.-M., Bordonne R., Bertrand E. *EMBO J.* 21:2736-2745(2002)

Interaction of PIMT with transcriptional coactivators CBP, p300, and PBP differential role in transcriptional regulation. Misra P., Qi C., Yu S., Shah S.H., Cao W.Q., Rao M.S., Thimmapaya B., Zhu Y., Reddy J.K. *J. Biol. Chem.* 277:20011-20019(2002)

Different isoforms of PRIP-interacting protein with methyltransferase domain/trimethylguanosine synthase localize to the cytoplasm and nucleus. Enuenlue I., Papai G., Cserpan I., Udvardy A., Jeang K.-T., Boros I. *Biochem. Biophys. Res. Commun.* 309:44-51(2003)

Interaction between the small-nuclear-RNA cap hypermethylase and the spinal muscular atrophy protein, survival of motor neuron. Mouaikel J., Narayanan U., Verheggen C., Matera A.G., Bertrand E., Tazi J., Bordonne R. *EMBO Rep.* 4:616-622(2003)

Ongoing U snRNP biogenesis is required for the integrity of Cajal bodies. Lemm I., Girard C., Kuhn A.N., Watkins N.J., Schneider M., Bordonne R., Luehrmann R. *Mol. Biol. Cell* 17:3221-3231(2006)

Genetic and biochemical analysis of yeast and human cap trimethylguanosine synthase functional overlap of 2,2,7-trimethylguanosine caps, small nuclear ribonucleoprotein components, pre-mRNA splicing factors, and RNA decay pathways. Hausmann S., Zheng S., Costanzo M., Brost R.L., Garcin D., Boone C., Shuman S., Schwer B. *J. Biol. Chem.* 283:31706-31718(2008)

A quantitative atlas of mitotic phosphorylation. Dephoure N., Zhou C., Villen J., Beausoleil S.A., Bakalarski C.E., Elledge S.J., Gygi S.P. *Proc. Natl. Acad. Sci. U.S.A.* 105:10762-10767(2008)

Lys-N and trypsin cover complementary parts of the phosphoproteome in a refined SCX-based approach. Gauci S., Helbig A.O., Slijper M., Krijgsveld J., Heck A.J., Mohammed S. *Anal. Chem.* 81:4493-4501(2009)

Quantitative phosphoproteomic analysis of T cell receptor signaling reveals system-wide modulation of protein-protein interactions. Mayya V., Lundgren D.H., Hwang S.-I., Rezaul K., Wu L., Eng J.K., Rodionov V., Han D.K. *Sci. Signal.* 2:RA46-RA46(2009)

Quantitative phosphoproteomics reveals widespread full phosphorylation site occupancy during mitosis. Olsen J.V., Vermeulen M., Santamaria A., Kumar C., Miller M.L., Jensen L.J., Gnad F., Cox J., Jensen T.S., Nigg E.A., Brunak S., Mann M. *Sci. Signal.* 3:RA3-RA3(2010)

System-wide temporal characterization of the proteome and phosphoproteome of human embryonic stem cell differentiation. Rigbolt K.T., Prokhorova T.A., Akimov V., Henningsen J., Johansen P.T., Kratchmarova I., Kassem M., Mann M., Olsen J.V., Blagoev B. *Sci. Signal.* 4:RS3-RS3(2011)

Structure analysis of the conserved methyltransferase domain of human trimethylguanosine synthase TGS1. Monecke T., Dickmanns A., Strasser A., Ficner R. *Acta Crystallogr. D* 65:332-338(2009)

Structural basis for m7G-cap hypermethylation of small nuclear, small nucleolar and telomerase RNA by the dimethyltransferase TGS1. Monecke T., Dickmanns A., Ficner R. *Nucleic Acids Res.* 37:3865-3877(2009)

NCBI AND UNIPROT INFORMATION

NCBI GI #	151301096
NCBI GeneID	96764
NCBI Accession #	NP_079107.6
NCBI GenBank Nucleotide #	NM_024831.7
UniProt Accession #	Q96RS0; Q5GH23; Q8TDG9; Q96QU3; Q9H5V3; A6NJQ5
Molecular Weight	31.6 kDa
NCBI Official Full Name	trimethylguanosine synthase isoform 1
NCBI Official Synonym Full Names	trimethylguanosine synthase 1
NCBI Official Symbol	TGS1
NCBI Official Synonym Symbols	PIMT; PIPMT; NCOA6IP
NCBI Protein Information	trimethylguanosine synthase
UniProt Protein Name	Trimethylguanosine synthase
UniProt Gene Name	TGS1
UniProt Synonym Gene Names	HCA137; NCOA6IP; PIMT; PIMT; PIPMT
UniProt Entry Name	TGS1_HUMAN

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AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
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