



SZABO SCANDIC

Part of Europa Biosite

Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!



Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

PNGase siRNA (m): sc-152352

BACKGROUND

PNGase, also known as NGLY1 (N-glycanase 1) or PNG1, is a 654 amino acid protein that localizes to the cytoplasm and contains one PAW domain and one PUB domain. Using zinc as a cofactor, PNGase deglycosylates the denatured form of cytoplasmic N-linked glycoproteins, specifically cleaving the β -aspartyl-glucosamine residue in the target protein and assisting in proteasome-mediated degradation. PNGase is also capable of recognizing and deglycosylating misfolded proteins in the endoplasmic reticulum (ER), thereby playing a role in the elimination of misfolded glycoproteins. PNGase exists as four alternatively spliced isoforms and is functionally inhibited by Z-VAD-fmk, a caspase inhibitor that binds to PNGase and inhibits its enzymatic activity.

REFERENCES

1. Suzuki, T., Park, H., Hollingsworth, N.M., Sternglanz, R. and Lennarz, W.J. 2000. PNG1, a yeast gene encoding a highly conserved peptide:N-glycanase. *J. Cell Biol.* 149: 1039-1052.
2. Park, H., Suzuki, T. and Lennarz, W.J. 2001. Identification of proteins that interact with mammalian peptide:N-glycanase and implicate this hydrolase in the proteasome-dependent pathway for protein degradation. *Proc. Natl. Acad. Sci. USA* 98: 11163-11168.
3. Suzuki, T., Kwofie, M.A. and Lennarz, W.J. 2003. Ngly1, a mouse gene encoding a deglycosylating enzyme implicated in proteasomal degradation: expression, genomic organization, and chromosomal mapping. *Biochem. Biophys. Res. Commun.* 304: 326-332.
4. Misaghi, S., Pacold, M.E., Blom, D., Ploegh, H.L. and Korb, G.A. 2004. Using a small molecule inhibitor of peptide:N-glycanase to probe its role in glycoprotein turnover. *Chem. Biol.* 11: 1677-1687.
5. Allen, M.D., Buchberger, A. and Bycroft, M. 2006. The PUB domain functions as a p97 binding module in human peptide N-glycanase. *J. Biol. Chem.* 281: 25502-25508.
6. Altrich-VanLith, M.L., Ostankovitch, M., Polefrone, J.M., Mosse, C.A., Shabanowitz, J., Hunt, D.F. and Engelhard, V.H. 2006. Processing of a class I-restricted epitope from tyrosinase requires peptide N-glycanase and the cooperative action of endoplasmic reticulum aminopeptidase 1 and cytosolic proteases. *J. Immunol.* 177: 5440-5450.
7. Zhou, X., Zhao, G., Truglio, J.J., Wang, L., Li, G., Lennarz, W.J. and Schindelin, H. 2006. Structural and biochemical studies of the C-terminal domain of mouse peptide-N-glycanase identify it as a mannose-binding module. *Proc. Natl. Acad. Sci. USA* 103: 17214-17219.
8. Online Mendelian Inheritance in Man, OMIM[™]. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610661. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: Ngly1 (mouse) mapping to 14 A2.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

PNGase siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PNGase shRNA Plasmid (m): sc-152352-SH and PNGase shRNA (m) Lentiviral Particles: sc-152352-V as alternate gene silencing products.

For independent verification of PNGase (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152352A, sc-152352B and sc-152352C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PNGase siRNA (m) is recommended for the inhibition of PNGase expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PNGase gene expression knockdown using RT-PCR Primer: PNGase (m)-PR: sc-152352-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.