



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) 

PRODUCT INFORMATION



PTK7 Extracellular Domain (human, recombinant)

Item No. 40523

Overview and Properties

Synonyms: CCK-4, Colon Carcinoma Kinase 4, Inactive Tyrosine-protein Kinase 7, Protein-tyrosine Kinase 7, Pseudo Tyrosine Kinase Receptor 7, Tyrosine-protein Kinase-like 7

Source: Recombinant human C-terminal His-tagged PTK7 extracellular domain expressed in HEK293 cells

Amino Acids: 1-704

Uniprot No.: Q13308

Molecular Weight: 76.1 kDa

Storage: -80°C (as supplied)

Stability: ≥1 year

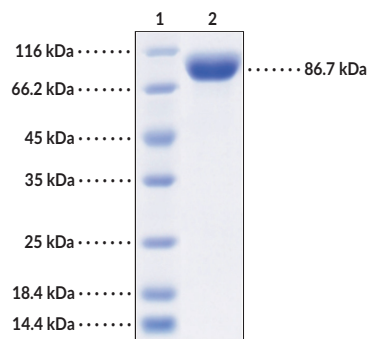
Purity: ≥95% estimated by SDS-PAGE

Supplied in: Lyophilized from sterile PBS, pH 7.4

Endotoxin Testing: < 1.0 EU/μg, determined by the LAL endotoxin assay

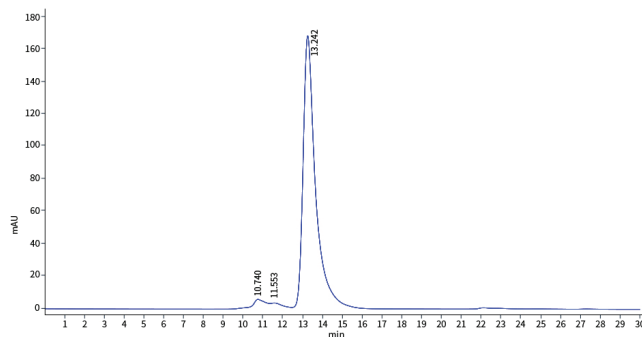
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: PTK7 Extracellular Domain

SDS-PAGE Analysis of PTK7 Extracellular Domain. This protein has a calculated molecular weight of 76.1 kDa. It has an apparent molecular weight of approximately 86.7 kDa by SDS-PAGE under reducing conditions due to glycosylation.



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.

Copyright Cayman Chemical Company, 03/12/2024

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Description

Inactive tyrosine-protein kinase 7 (PTK7) is a transmembrane receptor involved in morphogenesis.¹ It is composed of a signal peptide, seven immunoglobulin-like (Ig-like) domains, a transmembrane domain, a juxtamembrane domain, and a catalytically inactive tyrosine kinase domain.² PTK7 is expressed in pancreas, kidney, liver, lung, and placenta, as well as brain, heart, and melanocytes, and localizes to cell-cell junctions.^{3,4} It also undergoes alternative splicing to generate isoforms that exhibit tissue-specific distributions.² Soluble PTK7 is produced by proteolytic cleavage of the extracellular domain by matrix metalloproteinase-14 (MMP-14), also known as membrane type-1 MMP (MT1-MMP).⁴ PTK7 plays a role in planar cell polarity, gastrulation, neural tube closure, neural crest migration, cardiac morphogenesis, and epidermal wound repair and participates in canonical and non-canonical Wnt signaling.¹ Ectopic expression of PTK7 without the kinase domain induces migration of murine hematopoietic cells expressing the human protein and recombinant human soluble PTK7 inhibits VEGF-induced capillary tube formation in human umbilical vein endothelial cells (HUVECs).^{5,6} A PTK7-targeting antibody-drug conjugate containing the DNA topoisomerase I inhibitor exatecan (Item No. 35452) induces tumor regression in a breast cancer mouse xenograft model.⁷ Overexpression of PTK7 is associated with poor prognosis in patients with acute myeloid leukemia (AML).⁵ Cayman's PTK7 Extracellular Domain (human, recombinant) protein consists of 685 amino acids, has a calculated molecular weight of 76.1 kDa, and a predicted N-terminus of Ala31 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 86.7 kDa due to glycosylation.

References

1. Peradziryi, H., Tolwinski, N.S., and Borchers, A. The many roles of PTK7: A versatile regulator of cell-cell communication. *Arch. Biochem. Biophys.* **524(1)**, 71-76 (2012).
2. Jung, J.W., Ji, A.R., Lee, J., *et al.* Organization of the human PTK7 gene encoding a receptor protein tyrosine kinase-like molecule and alternative splicing of its mRNA. *Biochim. Biophys. Acta* **1579(2-3)**, 153-163 (2002).
3. Park, S.K., Lee, H.S., and Lee, S.T. Characterization of the human full-length PTK7 cDNA encoding a receptor protein tyrosine kinase-like molecule closely related to chick KLG. *J. Biochem.* **119(2)**, 235-239 (1996).
4. Golubkov, V.S., Chekanov, A.V., Cieplak, P., *et al.* The Wnt/planar cell polarity protein-tyrosine kinase-7 (PTK7) is a highly efficient proteolytic target of membrane type-1 matrix metalloproteinase: Implications in cancer and embryogenesis. *J. Biol. Chem.* **285(46)**, 35740-35749 (2010).
5. Prebet, T., Lhoumeau, A.-C., Arnoulet, C., *et al.* The cell polarity PTK7 receptor acts as a modulator of the chemotherapeutic response in acute myeloid leukemia and impairs clinical outcome. **116(13)**, 2315-2323 (2010).
6. Shin, W.-S., Maeng, Y.-S., Jung, J.-W., *et al.* Soluble PTK7 inhibits tube formation, migration, and invasion of endothelial cells and angiogenesis. *Biochem. Biophys. Res. Commun.* **371(4)**, 793-798 (2008).
7. Kong, C., Pu, J., Zhao, Q., *et al.* MTX-13, a novel PTK7-directed antibody-drug conjugate with widened therapeutic index shows sustained tumor regressions for a broader spectrum of PTK7-positive tumors. *Mol. Cancer Ther.* **22(10)**, 1128-1143 (2023).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM