PRODUCT INFORMATION

PTK7 Extracellular Domain (human, recombinant)

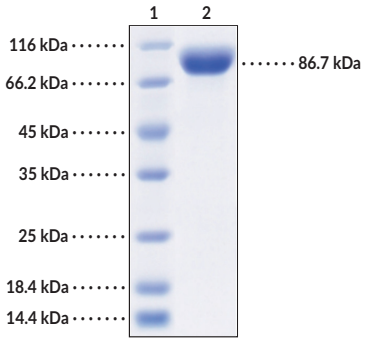
Item No. 40523

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

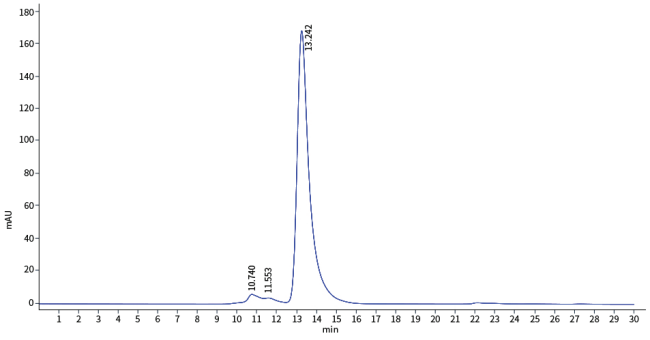
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

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.



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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

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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).
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