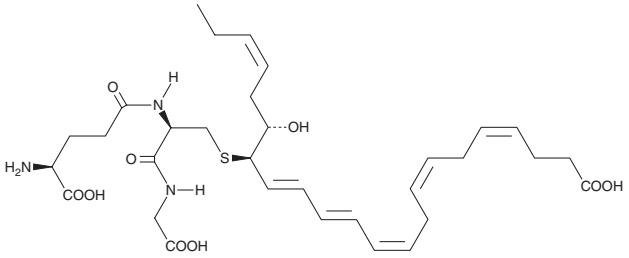
PRODUCT INFORMATION

PCTR1

Item No. 19064

CAS Registry No.:	1810710-59-8
Formal Name:	(4Z,7Z,10Z,12E,14E,16R,17S,19Z)-16-(((R)-2-((S)-4-amino-4-carboxybutanamido)-3-((carboxymethyl)amino)-3-oxopropyl)thio)-17-hydroxydocosa-4,7,10,12,14,19-hexaenoic acid
Synonym:	Protein Conjugates in Tissue Regeneration 1
MF:	$C_{32}H_{47}N_3O_9S$
FW:	649.8
Purity:	≥96%
UV/Vis.:	λ_{max}: 283, 293 nm
Supplied as:	A solution in ethanol
Storage:	-80°C
Stability:	≥1 year



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

Laboratory Procedures

Protectin conjugates in tissue regeneration 1 (PCTR1) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of PCTR1 in these solvents is approximately 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of PCTR1 is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of PCTR1 in PBS, pH 7.2, is approximately 100 µg/ml . We do not recommend storing the aqueous solution for more than one day.

Description

PCTR1 is a specialized pro-resolving mediator (SPM) synthesized from docosahexaenoic acid (DHA; Item No. 90310).[1] DHA is oxidized to 16S,17S-epoxy-protectin, which is then converted to PCTR1 by glutathione S-transferase.[1,2] PCTR1 levels increase during resolution of acute microbial-induced peritonitis in mice.[3] PCTR1 (30 ng, i.p.) administration 12 hours post-infection increases macrophage numbers and activity and shortens the resolution phase of inflammation by 57%. It also reduces the levels of PGE_2 (Item No. 14010), PGD_2 (Item No. 12010), and TXB_2 (Item No. 19030) in peritoneal exudates.

References

1. Rodriguez, A.R. and Spur, B.W. Total synthesis of pro-resolving and tissue-regenerative protectin sulfido-conjugates. *Tetrahedron Lett.* **56(42)**, 5811-5815 (2015).
2. Aursnes, M., Tungen, J.E., Colas, R.A., *et al.* Synthesis of the 16S,17S-epoxyprotectin intermediate in the biosynthesis of protectins by human macrophages. *J. Nat. Prod.* **8(12)**, 2924-2931 (2015).
3. Ramon, S., Dalli, J., Sanger, J.M., *et al.* The protectin PCTR1 is produced by human M2 macrophages and enhances resolution of infectious inflammation. *Am. J. Pathol.* **186(4)**, 962-973 (2016).

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