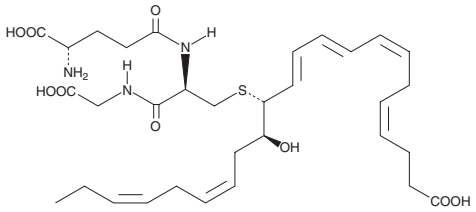
PRODUCT INFORMATION

MCTR1

Item No. 17007

CAS Registry No.:	1784701-61-6
Formal Name:	L-γ-glutamyl-S-[(1R,2E,4E,6Z,9Z)-12-carboxy-1-[(1S,3Z,6Z)-1-hydroxy-3,6-nonadien-1-yl]-2,4,6,9-dodecatetraen-1-yl]-L-cysteinyl-glycine
Synonyms:	13-glutathionyl-14-hydroxy Docosahexaenoic Acid, Maresin Conjugates in Tissue Regeneration 1, Maresin Sulfido Conjugate 1
MF:	$C_{32}H_{47}N_3O_9S$
FW:	649.8
Purity:	≥95%
UV/Vis.:	λ_{max}: 282 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

Maresin conjugates in tissue regeneration 1 (MCTR1) 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 ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of MCTR1 in ethanol is approximately 1 mg/ml and approximately 50 mg/ml in DMSO and DMF.

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 MCTR1 is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of MCTR1 in PBS, pH 7.2, is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

MCTR1 is a specialized pro-resolving mediator (SPM) synthesized from docosahexaenoic acid (DHA; Item No. 90310) in macrophages at the site of inflammation.[1,2] DHA is oxidized to maresin 1 (MaR1; Item No. 10878), which is then converted to MCTR1 by glutathione S-transferase Mu 4 or leukotriene C_4 synthase.[3-5] MCTR1 accelerates tissue regeneration in planaria (1 and 100 nM).[2] Pretreatment with MCTR1 (50 ng/mouse, i.p.) prior to *E. coli* administration reduces neutrophil infiltration, shortens the inflammatory resolution period, and increases phagocytosis of *E. coli* by macrophages.[2] When administered at a dose of 100 ng 12h post *E. coli* infection in a mouse model of peritonitis, MCTR1 reduces the amount of eicosanoids in the exudate.

References

1. Serhan, C.N. *Nature* **510(7503)**, 92-101 (2014).
2. Dalli, K.J., Sanger, J.M., Rodriguez, A.R., *et al. PLoS One* **11(2)**, e0149319 (2016).
3. Dalli, J., Chiang, N., and Serhan, C.N. *Proc. Natl. Acad. Sci. USA* **111(44)**, E4753-E4761 (2014).
4. Dalli, J., Vlasakov, I., Riley, I.R., *et al. Proc. Natl. Acad. Sci. USA* **113(43)**, 12232-12237 (2016).
5. Serhan, C.N., Dalli, J., Karamnov, S., *et al. FASEB J.* **26(4)**, 1755-1765 (2012).

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