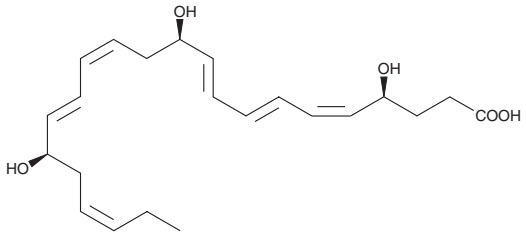
PRODUCT INFORMATION

17(R)-Resolvin D3

Item No. 9002880

CAS Registry No.:	1427475-53-3
Formal Name:	(4S,5Z,7E,9E,11R,13Z,15E,17R,19Z)-4,11,17-trihydroxy-5,7,9,13,15,19-docosahexaenoic acid
Synonyms:	Aspirin-triggered Resolvin D3, 17-*epi*-Resolvin D3, AT-RvD3, 17(R)-RvD3
MF:	$C_{22}H_{32}O_5$
FW:	376.5
Purity:	≥90%
UV/Vis.:	λ_{max}: 240, 272, 283 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

17(R)-Resolvin D3 (17(R)-RvD3) 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 dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of 17(R)-RvD3 in DMF 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 17(R)-RvD3 is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 17(R)-RvD3 in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

17(R)-RvD3 is an aspirin-triggered epimer of resolvin D3 (Item No. 13834).[1] It is produced from docosahexaenoic acid (DHA; Item No. 90310) by COX-2 in the presence of aspirin *via* a 17(R)-hydroperoxy DHA (17(R)-HDHA; Item No. 10005099) intermediate and has been found in mouse inflammatory exudates.[1,2] 17(R)-RvD3 reduces transmigration of isolated human polymorphonuclear cells (PMNs) and induces efferocytosis of apoptotic PMNs by macrophages.[2] 17(R)-RvD3 (10 ng/animal) reduces transmigration of neutrophils into the peritoneal cavity, as well as decreases the levels of IL-6 and increases the levels of IL-10 in inflammatory exudate in a mouse model of zymosan-induced peritonitis. It activates GPR32 in a β-arrestin reporter assay and increases phagocytosis to a greater degree in CHO cells overexpressing GPR32 compared to mock-transfected cells. 17(R)-RvD3 increases phagocytosis of etoposide-generated tumor cell debris by monocyte-derived macrophages in H460 human lung carcinoma cells in a concentration-dependent manner.[3] It also inhibits tumor growth in a mouse model of Lewis lung carcinoma when administered at a dose of 0.6 µg/kg per day.

References

1. Winkler, J.W., Uddin, J., Serhan, C.N., *et al. Org. Lett.* **15(7),** 1424-1427 (2013).
2. Dalli, J., Winkler, J.W., Colas, R.A., *et al. Chem. Biol.* **20(2),** 188-201 (2013).
3. Gilligan, M.M., Gartng, A., Sulcier, M.L., *et al. Proc. Nat. Acad. Sci. USA* **116(13),** 6292-6297 (2019).

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