

## Product Data Sheet

Product Name: Resolvin E1

Cat. No.: GC40612

### Chemical Properties

Cas. No. 552830-51-0

Chemical Name 5S,12R,18R-trihydroxy-6Z,8E,10E,14Z,16E-eicosapentaenoic acid

SMILES O[C@@H](CCCC(O)=O)/C=C\C=C\C=C\C[C@H](O)C/C=C\C=C\C[C@H](O)CC

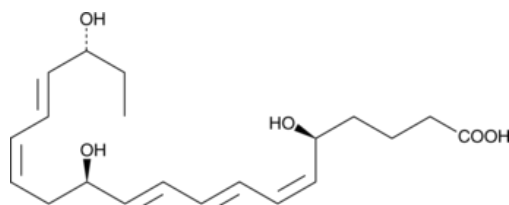
Formula  $C_{20}H_{30}O_5$  M.Wt 350.5

Solubility 50 mg/ml in DMF, 50 mg/ml in Ethanol Storage Store at -80°C, protect from light

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



### Background

Resolvin E1 (RvE1) is a trihydroxy eicosapentaenoic acid metabolite that has been identified in mouse inflammatory exudates and in human plasma when subjects are treated with both aspirin and supplemental EPA.[1],[2],[3] RvE1 is an anti-inflammatory EPA metabolite that has been shown to promote inflammatory resolution in numerous disease models, including experimental colitis, asthma, atherosclerosis, type 2 diabetes, and HSV-1-induced stromal keratitis.[4],[5],[6],[7],[8],[9],[10],[11]

Reference:

[1]. Serhan, C.N., Clish, C.B., Brannon, J., et al. Novel functional sets of lipid-derived mediators with antiinflammatory actions generated from omega-3 fatty acids via cyclooxygenase 2-nonsteroidal

**Caution: Product has not been fully validated for medical applications. For research use only.**

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antiinflammatory drugs and transcellular processing. Journal of Experimental Medicine 192(8), 1197-1204 (2000).

[2]. Serhan, C.N., Hong, S., Gronert, K., et al. Resolvins: A family of bioactive products of  $\omega$ -3 fatty acid transformation circuits by aspirin treatment that counter proinflammation signals. J. Exp. Med. 196(8), 1025-1037 (2002).

[3]. Arita, M., Bianchini, F., Aliberti, J., et al. Stereochemical assignment, antiinflammatory properties, and receptor for the omega-3 lipid mediator resolvin E1. Journal of Experimental Medicine 201(5), 713-722 (2005).

[4]. Flower, R.J., and Perretti, M. Controlling inflammation: A fat chance? Journal of Experimental Biology 201(5), 671-674 (2005).

[5]. Arita, M., Yoshida, M., Hong, S., et al. Resolvin E1, an endogenous lipid mediator derived from omega-3 eicosapentaenoic acid, protects against 2,4,6-trinitrobenzene sulfonic acid-induced colitis. Proceedings of the National Academy of Sciences of the United States of America 102(21), 7671-7676 (2005).

[6]. Aoki, H., Hisada, T., Ishizuka, T., et al. Resolvin E1 dampens airway inflammation and hyperresponsiveness in a murine model of asthma. Biochemical and Biophysical Research Communications 367, 509-515 (2008).

[7]. Haworth, O., Cernadas, M., and Levy, B.D. NK cells are effectors for resolvin E1 in the timely resolution of allergic airway inflammation. Journal of Immunology 186(11), 6129-6135 (2011).

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[9]. Hasturk, H., Abdallah, R., Kantarck, A., et al. Resolvin E1 (RvE1) attenuates atherosclerotic plaque formation in diet and inflammation-induced atherogenesis. Arteriosclerosis, Thrombosis, and Vascular Biology 35(5), 1123-1133 (2015).

[10]. Herrera, N.S., Hasturk, H., Kantarck, A., et al. Impact of resolvin E1 on murine neutrophil phagocytosis in type 2 diabetes. Infection and Immunity 83(2), 792-801 (2015).

[11]. Rajasagi, N.K., Reddy, P.B.J., Suryawanshi, A., et al. Controlling herpes simplex virus-induced ocular inflammatory lesions with the lipid-derived mediator resolvin E1. Journal of Immunology 186(3), 1735-1746 (2011).

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