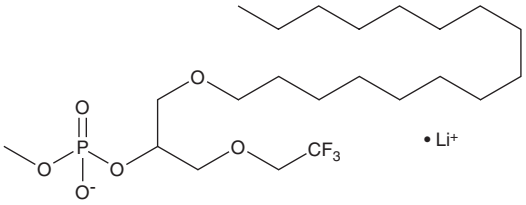
PRODUCT INFORMATION

MJ33 (lithium salt)

Item No. 90001844

CAS Registry No.:	1007476-63-2
Formal Name:	phosphoric acid, mono[1-[(hexadecyloxy) methyl]-2-(2,2,2-trifluoroethoxy)ethyl] monomethyl ester, monolithium salt
MF:	$C_{22}H_{43}F_3O_6P \bullet Li$
FW:	498.5
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

MJ33 (lithium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the MJ33 (lithium salt) in the solvent of choice. MJ33 (lithium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of MJ33 (lithium salt) in these solvents is approximately 2, 0.25, 0.5 mg/ml, respectively.

MJ33 (lithium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MJ33 (lithium salt) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. MJ33 (lithium salt) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Peroxiredoxin-6 (Prdx6) is a bifunctional enzyme that has both non-selenium glutathione peroxidase (GPX) and phospholipase A_2 (PLA_2) activities.[1] Its PLA_2 activity is calcium-independent, functions optimally in acidic (pH = 4) conditions, and facilitates the intracellular processing of surfactant lipids, including dipalmitoylphosphatidylcholine (DPPC).[1-3] MJ33 is a selective, reversible inhibitor of the acidic, calcium-independent (ai)PLA_2 activity of Prdx6, with optimal inhibition achieved at an MJ33 concentration of 3 mol%.[4-6] It blocks the degradation of DPPC in both whole lung and isolated alveolar type II epithelial cells.[2] MJ33 has been used to examine the role of Prdx6 PLA_2 activity in the activation of type 2 NADPH oxidase and in the regulation of Prdx6 PLA_2 activity by phosphorylation.[7,8]

References

1. Chen, J.-W., Dodia, C., Feinstein, S.I., *et al. J. Biol. Chem.* **275(37)**, 28421-28427 (2000).
2. Fisher, A.B., Dodia, C., Feinstein, S.I., *et al. J. Lipid Res.* **46(6)**, 1248-1256 (2005).
3. Fisher, A.B. and Dodia, C. *Am. J. Physiol.* **272**, L238-L243 (1997).
4. Fisher, A.B. and Dodia, C. *J. Lipid Res.* **37**, 1057-1064 (1996).
5. Kim, T.-S., Sundaresh, C.S., Feinstein, S.I., *et al. J. Biol. Chem.* **272**, 2542-2550 (1997).
6. Fisher, A.B., Dodia, C., Chander, A., *et al. Biochem. J.* **288(Pt 2)**, 407-411 (1992).
7. Lee, I., Dodia, C., Chatterjee, S., *et al. Am. J. Physiol. Lung Cell Mol. Physiol.* **306**, L635-L644 (2014).
8. Wu, Y., Feinstein, S.I., Manevich, Y., *et al. Biochem.* **419(3)**, 669-679 (2009).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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