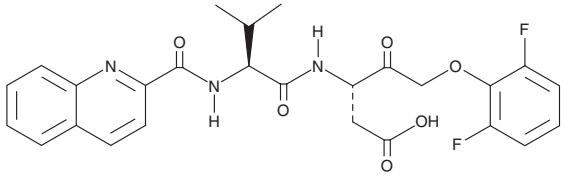
PRODUCT INFORMATION

Q-VD-OPH

Item No. 15260

CAS Registry No.:	1135695-98-5
Formal Name:	(3S)-5-(2,6-difluorophenoxy)-3-[[(2S)-3-methyl-1-oxo-2-[(2-quinolinylcarbonyl)amino]butyl]amino]-4-oxo-pentanoic acid
Synonym:	Quinoline-Val-Asp-Difluorophenoxymethyl Ketone
MF:	$C_{26}H_{25}F_2N_3O_6$
FW:	513.5
Purity:	≥95% (mixture of tautomers)
UV/Vis.:	λ_{max}: 238, 289 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Q-VD-OPH is supplied as a crystalline solid. A stock solution may be made by dissolving the Q-VD-OPH in the solvent of choice. Q-VD-OPH is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of Q-VD-OPH in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Q-VD-OPH is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Q-VD-OPH should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Q-VD-OPH has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Q-VD-OPH is a broad-spectrum caspase inhibitor, blocking caspases-3, -7, -8, -9, -10, and -12 and inhibiting apoptosis when used at 10 µM.[1,2] It more effectively inhibits apoptosis and is much less cytotoxic than Z-VAD-FMK (Item No. 14463) and Boc-D-FMK (Item No. 16118).[1,2] Q-VD-OPH can be used *in vivo*, where it has been shown to prevent ischemia-reperfusion injury-induced apoptosis.[3,4] This compound, by broadly inhibiting caspases, also promotes the differentiation of leukemic blasts cells, suggesting an application in differentiation therapy of certain forms of cancer.[5]

References

1. Caserta, T.M., Smith, A.N., Gultice, A.D., *et al.* Q-VD-OPh, a broad spectrum caspase inhibitor with potent antiapoptotic properties. *Apoptosis* **8(4)**, 345-352 (2003).
2. Kuzelová, K., Grebenová, D., and Brodská, B. Dose-dependent effects of the caspase inhibitor Q-VD-OPh on different apoptosis-related processes. *J. Cell. Biochem.* **112(11)**, 3334-3342 (2011).
3. Renolleau, S., Fau, S., Goyenvalle, C., *et al.* Specific caspase inhibitor Q-VD-OPh prevents neonatal stroke in P7 rat: A role for gender. *J. Neurochem.* **100(4)**, 1062-1071 (2007).
4. Braun, J.S., Prass, K., Dirnagl, U., *et al.* Protection from brain damage and bacterial infection in murine stroke by the novel caspase-inhibitor Q-VD-OPH. *Exp. Neurol.* **206(2)**, 183-191 (2007).
5. Chen-Deutsch, X., Kutner, A., Harrison, J.S., *et al.* The pan-caspase inhibitor QVD has anti-leukemia effects and can interact with vitamin D analogs to increase HPK1 signaling in AML cells. *Leuk. Res.* **36(7)**, 884-888 (2012).

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