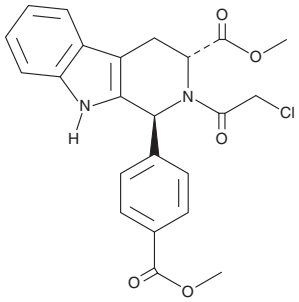
PRODUCT INFORMATION

(1S,3R)-RSL3

Item No. 19288

CAS Registry No.: 1219810-16-8
Formal Name: (1S,3R)-2-(2-chloroacetyl)-2,3,4,9-tetrahydro-1-[4-(methoxycarbonyl) phenyl]-1H-pyrido[3,4-b]indole-3-carboxylic acid, methyl ester
MF: $C_{23}H_{21}ClN_2O_5$
FW: 440.9
Purity: ≥98%
UV/Vis.: λ_{max}: 220 nm
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

(1S,3R)-RSL3 is supplied as a crystalline solid. A stock solution may be made by dissolving the (1S,3R)-RSL3 in the solvent of choice, which should be purged with an inert gas. (1S,3R)-RSL3 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of (1S,3R)-RSL3 in these solvents is approximately 10 mg/ml.

(1S,3R)-RSL3 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (1S,3R)-RSL3 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. (1S,3R)-RSL3 has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(1S,3R)-RSL3 is an inhibitor of glutathione peroxidase 4 (GPX4) that induces a lethal accumulation of lipid hydroperoxides and ferroptotic cell death (EC_{50} = 0.01 µM in $HRAS^{V12}$-expressing BJeHLT cells).[1-3] It is selective for $HRAS^{V12}$-expressing over wild-type BJeHLT cells (EC_{50} = 2 µM).[3] (1S,3R)-RSL3 reduces tumor volume in various mouse xenograft models, with diffuse large B cell lymphomas and renal cell carcinomas being most sensitive.

References

1. Kagan, V.E., Mao, G., Qu, F., *et al.* Oxidized arachidonic and adrenic PEs navigate cells to ferroptosis. *Nat. Chem. Biol.* **13(1)**, 81-90 (2017).
2. Yang, W.S. and Stockwell, B.R. Ferroptosis: Death by lipid peroxidation. *Trends Cell Biol.* **26(3)**, 165-176 (2016).
3. Yang, W.S., SriRamaratnam, R., Welsch, M.E., *et al.* Regulation of ferroptotic cancer cell death by GPX4. *Cell* **156(1-2)**, 317-331 (2015).

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