

Product Data Sheet

Product Name: PSFL2915

Cat. No.: GC79535

Chemical Properties

Cas. No. 88134-39-8

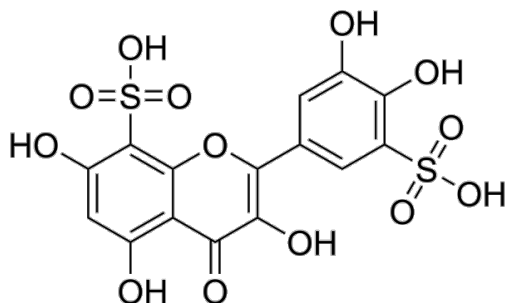
Formula $C_{15}H_{10}O_{13}S_2$ M.Wt 462.36

Solubility DMSO: 10 mg/mL (21.63 mM; ultrasonic and warming and heat to 60°C) Storage Store at -20°C

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

PSFL2915 is a selective, orally active P2X receptor inhibitor with oral effectiveness, with an IC_{50} of 0.319 μ M for human P2X₃, 0.261 μ M for rat P2X_{2/3}, and 13.3 μ M for human P2X₂. PSFL2915 exhibits ~42-fold selectivity over human P2X₂. PSFL2915 can be used for the research of chronic cough [1].

In Vivo, PSFL2915 (15 mg/kg; i.g.; twice daily; 7 days) produces significant cough-suppressant

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

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activity in male C57BL/6 mice with ammonia-induced chronic cough, with potency equivalent to Gefapixant at the same dose^[1]. PSFL2915 (10 mg/kg; i.g.; twice daily; 7 days) produces significant cough-suppressant activity in male Hartley guinea pigs with citric acid/ATP-induced chronic cough, with potency equivalent to Gefapixant at the same dose^[1]. PSFL2915 (15 mg/kg; i.g.; twice daily; 7-10 days) does not impair taste perception in mice, as measured by two-bottle preference tests for bitter and sweet tastants^[1]. PSFL2915 (10-20 mg/kg; i.p.) does not impair bitter taste perception in rats, as measured by two-bottle preference testing with quinine^[1].

In Vitro, PSFL2915 (0.01-3 μ M; 0.6 μ M; 1 μ M) is a noncompetitive, Mg²⁺-dependent allosteric inhibitor of hP2X₃, with ~42-fold selectivity for hP2X₃ over hP2X₂, potent inhibition of rP2X_{2/3} heterotrimers, and low activity at other P2X subtypes^[1]. PSFL2915 (1 μ M) exerts inhibitory effects by targeting the inner pocket of the head domain of hP2X₃, as evidenced by potent inhibition of the hP2X₄ chimera containing this hP2X₃ domain^[1]. PSFL2915 (500 nM) prevents the ATP-induced conformational change of the inner pocket of the head domain in hP2X₃, which is required for channel activation^[1].

References:

[1]. Guo CR, et al. Chronic cough relief by allosteric modulation of P2X₃ without taste disturbance. Nat Commun. 2023;14(1):5844. Published 2023 Sep 20.

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