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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
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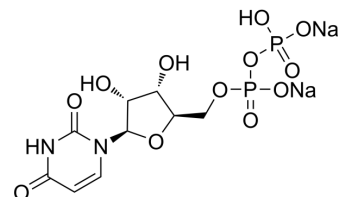
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Uridine-5'-diphosphate disodium salt

| | |
|---------------------------|--|
| Cat. No.: | HY-W010832 |
| CAS No.: | 27821-45-0 |
| Molecular Formula: | C ₉ H ₁₂ N ₂ Na ₂ O ₁₂ P ₂ |
| Molecular Weight: | 448 |
| Target: | Endogenous Metabolite; P2Y Receptor; DNA/RNA Synthesis |
| Pathway: | Metabolic Enzyme/Protease; GPCR/G Protein; Cell Cycle/DNA Damage |
| Storage: | -20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |



SOLVENT & SOLUBILITY

| | | | | | | |
|---|---|----------------------|-------------|-------------|-------------|--------------|
| In Vitro | H ₂ O : 100 mg/mL (223.21 mM; Need ultrasonic) | | | | | |
| | DMSO : < 1 mg/mL (insoluble or slightly soluble) | | | | | |
| | Preparing Stock Solutions | Solvent | Mass | 1 mg | 5 mg | 10 mg |
| | | Concentration | | | | |
| | | 1 mM | | 2.2321 mL | 11.1607 mL | 22.3214 mL |
| 5 mM | | | 0.4464 mL | 2.2321 mL | 4.4643 mL | |
| 10 mM | | 0.2232 mL | 1.1161 mL | 2.2321 mL | | |
| Please refer to the solubility information to select the appropriate solvent. | | | | | | |
| In Vivo | 1. Add each solvent one by one: PBS Solubility: 100 mg/mL (223.21 mM); Clear solution; Need ultrasonic | | | | | |

BIOLOGICAL ACTIVITY

| | |
|-------------------------------------|---|
| Description | Uridine-5'-diphosphate disodium salt is a potent, selective P2Y ₆ receptor native agonist (EC ₅₀ =300 nM; pEC ₅₀ =6.52 for human P2Y ₆ receptor). Uridine-5'-diphosphate disodium salt, an endogenous metabolite, catalyzes the glucuronidation of a wide array of substrates and is used in nucleic acid (RNA) biosynthesis ^{[1][2]} . |
| IC₅₀ & Target | P2Y ₆ Receptor |
| In Vitro | <p>Uridine-5'-diphosphate disodium salt (100 μM; for 15 min) significantly induces microglial CCL2 and CCL3 mRNA expression [2].</p> <p>Uridine-5'-diphosphate disodium salt (100 μM; 3 hours) induces chemokine expression in microglia^[2].</p> <p>Uridine-5'-diphosphate disodium salt (100 μM; 0.5, 1, 3, 6 12 hours) induces expression of mRNA encoding CCL2 and CCL3 within 30 min, and such expression reaches maximal levels at 1 h, returning to basal levels at 3-12 h^[2].</p> <p>Uridine-5'-diphosphate disodium salt (10, 100, 1000 μM; 3 hours) induces a concentration-dependent increase in the expression of chemokines at both the mRNA and protein level^[2].</p> |

Uridine-5'-diphosphate disodium salt (100 μ M; for 15 min) induces activation of NFATc1 and NFATc2 in microglia^[2].
Uridine-5'-diphosphate disodium salt is a competitive antagonist at the human P2Y₁₄ receptor (pEC₅₀=7.28) but not rat P2Y₁₄ receptor^[1].
UDP-glucose (UDPG; HY-N7032) is a potent P2Y₁₄ agonist^{[3][4]}.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.
RT-PCR^[2]

| | |
|------------------|---|
| Cell Line: | Primary microglia |
| Concentration: | 100 μ M |
| Incubation Time: | For 15 min |
| Result: | Significantly induced microglial CCL2 and CCL3 mRNA expression. |

CUSTOMER VALIDATION

- Int Immunopharmacol. August 2022, 108909.

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REFERENCES

- [1]. Jacobson KA, et al. Development of selective agonists and antagonists of P2Y receptors. *Purinergic Signal*. 2009 Mar;5(1):75-89.
- [2]. Kim B, et al. Uridine 5'-diphosphate induces chemokine expression in microglia and astrocytes through activation of the P2Y6 receptor. *J Immunol*. 2011 Mar 15;186(6):3701-9.
- [3]. Edyta Gendaszewska-Darmach, et al. Nucleoside 5'-O-monophosphorothioates as modulators of the P2Y14 receptor and mast cell degranulation. *Oncotarget*. 2016 Oct 25;7(43):69358-69370.
- [4]. Zainab S B Abbas, et al. UDP-sugars activate P2Y 14 receptors to mediate vasoconstriction of the porcine coronary artery. *Vascul Pharmacol*. 2018 Apr;103-105:36-46.

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

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