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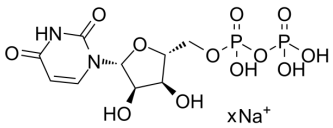
Uridine 5'-diphosphate sodium salt

Cat. No.:	HY-W010820
CAS No.:	21931-53-3
Molecular Formula:	$C_9H_{14}N_2O_{12}P_2.xNa$
Target:	P2Y Receptor; DNA/RNA Synthesis; Endogenous Metabolite
Pathway:	GPCR/G Protein; Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Uridine 5'-diphosphate sodium salt is a potent, selective $P2Y_6$ receptor native agonist (EC_{50}=300 nM; pEC_{50}=6.52) and a potent $P2Y_{14}$ antagonist (pEC_{50}=7.28). Uridine 5'-diphosphate sodium salt, an endogenous metabolite, catalyzes the glucuronidation of a wide array of substrates and is used in nucleic acid (RNA) biosynthesis[1][2].
IC_{50} & Target	Human Endogenous Metabolite
In Vitro	Uridine 5'-diphosphate sodium salt (100 μM; for 15 min) significantly induces microglial CCL2 and CCL3 mRNA expression[2]. Uridine 5'-diphosphate sodium salt (100 μM; 3 hours) induces chemokine expression in microglia[2]. Uridine 5'-diphosphate sodium 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]. UDP (10, 100, 1000 μM; 3 hours) induces a concentration-dependent increase in the expression of chemokines at both the mRNA and protein level[2]. Uridine 5'-diphosphate sodium salt (100 μM; for 15 min) induces activation of NFATc1 and NFATc2 in microglia[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[2]

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

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.

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

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