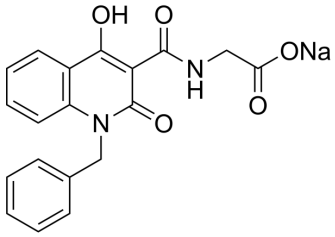
IOX2 sodium

Cat. No.:	HY-15468A
CAS No.:	2377239-85-3
Molecular Formula:	$C_{19}H_{15}N_2NaO_5$
Molecular Weight:	374.32
Target:	HIF/HIF Prolyl-Hydroxylase
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	IOX2 sodium is a specific prolyl hydroxylase-2 (PHD2) inhibitor with IC_{50} of 22 nM. IOX2 sodium regulates platelet function and arterial thrombosis by upregulating HIF-1α expression and inhibiting ROS production. IOX2 sodium can be used in the study of thrombotic diseases[1][2].
IC_{50} & Target	IC50: 22 nM (PHD2)[2]
In Vitro	IOX2 sodium (0, 10, 25, and 50 μM) dose-dependently inhibits collagen-related peptide (CRP; 0.25 μg/mL) or thrombin (0.03 U/mL)-induced platelet aggregation and ATP release. But IOX2 doesn't affect P-selectin expression and the surface levels of glycoprotein (GP)Ibα, GPVI, or αIIbβ3[1]. IOX2 sodium also inhibits the spreading of platelets on fibrinogen or collagen and clot retraction[1]. IOX2 sodium (50 μM; 24 h) increases the transcription level of VEGF-A and BNIP3 in Normal human epidermal keratinocytes (NHEK) and Normal human dermal fibroblasts (NHDF), when grown under normoxia and hypoxia condition[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	IOX2 sodium (10 mg/kg; i.p.; single dose) impaired the in vivo hemostatic function of platelets and arterial thrombus formation in mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Mouse[1]
Dosage:	10 mg/kg
Administration:	Intraperitoneal injection
Result:	Upregulated HIF-1α in platelets, decreased ROS generation, and downregulated NOX1 expression. Increased the phosphorylation level of VASP (Ser157/239), and inhibited the phosphorylation of p38 (Thr180/Tyr182), ERK1/2 (Thr202/Tyr204), AKT (Thr308/Ser473), and PKCδ (Thr505) in CRP- or thrombin-stimulated platelets.

CUSTOMER VALIDATION

- Nat Commun. 2022 May 4;13(1):2447.
- Oxid Med Cell Longev. 2020 Jan 4;2020:4909103.
- Aging. 2021 May 20;13(10):14355-14371.
- Thromb Haemostasis. 2022 Apr 27.
- Sci Rep. 2022 Jan 27;12(1):1443.

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REFERENCES

[1]. Gu W, et al. Inhibition of Hypoxia-Inducible Factor Prolyl-Hydroxylase Modulates Platelet Function. Thromb Haemost. 2022 Oct;122(10):1693-1705.

[2]. Deppe J, et al. Impairment of hypoxia-induced HIF-1α signaling in keratinocytes and fibroblasts by sulfur mustard is counteracted by a selective PHD-2 inhibitor. Arch Toxicol. 2016 May;90(5):1141-50.

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