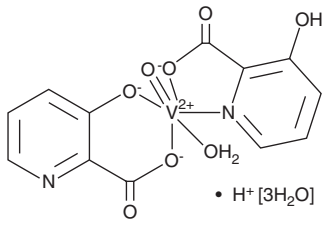
PRODUCT INFORMATION

VO-OHpic (hydrate)

Item No. 10009965

CAS Registry No.: 476310-60-8
Formal Name: (OC-6-45)-aqua(3-hydroxy-2-pyridinecarboxylato-κN[1],κO[2])[3-(hydroxy-κO)-2-pyridinecarboxylato(2-)-κO[2]]oxo-vanadate(1-), hydrogen, trihydrate
MF: $C_{12}H_9N_2O_8V \bullet H\ [3H_2O]$
FW: 415.2
Purity: ≥95%
UV/Vis.: λ_{max}: 303 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

VO-OHpic (hydrate) is supplied as a crystalline solid. Aqueous solutions of VO-OHpic (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of VO-OHpic (hydrate) in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

VO-OHpic is a specific inhibitor of phosphatase and tensin homolog (PTEN; IC_{50} = 35 nM *in vitro*).[1,2] Through this action, it increases cellular phosphatidylinositol 3,4,5-trisphosphate (PIP_3) levels, phosphorylation of Akt, and glucose uptake in adipocytes.[2] In mice, VO-OHpic (10 µg/kg, i.p.) decreases left ventricular systolic pressure and heart rate and protects against ischemia/reperfusion-induced myocardial infarction.[3] VO-OHpic also blocks the development of suppressor activity in regulatory T cells activated with indoleamine 2,3-dioxygenase.[4]

References

1. Rosivatz, E., Matthews, J.G., McDonald, N.Q., *et al*. A small-molecule inhibitor for phosphatase and tensin homologue deleted on chromosome 10 (PTEN). *ACS Chem. Biol.* **1(12)**, 780-790 (2006).
2. Mak, L.H., Vilar, R. and Woscholski, R. Characterisation of the PTEN inhibitor VO-OHpic. *J. Chem. Biol.* **3(4)**, 157-163 (2010).
3. Zu, L., Shen, Z., Wesley, J., *et al*. PTEN inhibitors cause a negative inotropic and chronotropic effect in mice. *Eur. J. Pharmacol.* **650(1)**, 298-302 (2011).
4. Sharma, M.D., Shinde, R., McGaha, T.L., *et al*. The PTEN pathway in Tregs is a critical driver of the suppressive tumor microenvironment. *Sci. Adv.* **1(10)**, e1500845 (2015).

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