
Product Data Sheet

Product Name: OPC-28326

Cat. No.: GC32543

Chemical Properties

Cas. No. 167626-17-7

SMILES CCC(NC1=C(C)C=C(C(N2CCC(N(C)CCC3=CC=CC=C3)CC2)=O)C=C1C)=OFormula C₂₆H₃₅N₃O₂ M.Wt 421.58

Solubility Soluble in DMSO 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

Protocol

Animal experiment:

Unilateral hindlimb ischemia is induced in 30- to 35-week-old male mice by resecting the right femoral and saphenous arteries. The mice are fed on regular chow (Ctrl), chow containing 0.02% (OPC(L)) or 0.05% (OPC(H)) OPC-28326, starting one week before the surgery (n = 10 for each group). Hindlimb blood perfusion is measured using a laser Doppler perfusion imager (LDPI) system. Excess hairs are removed from the limbs using depilatory cream before imaging, and mice are placed on a heating plate at 40°C. To avoid the influence of ambient light and temperature, the results are expressed as the ratio of perfusion in the right (ischemic) versus left (untreated) limb. The thigh muscles are harvested at 4 weeks and stained for CD31 (clone MEC13.1) to detect endothelial cells. Capillaries are identified by positive staining for CD31 and their morphology. Ten different fields from each tissue preparation are randomly selected and capillaries are counted. Capillary density is expressed as the number of capillaries per square millimeter.

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

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References:

[1]. Sumi M, et al. OPC-28326, a selective femoral arterial vasodilator, augments ischemia induced angiogenesis. Biomed Pharmacother. 2007 May;61(4):209-15. Epub 2006 Dec 28.

[2]. Orito K, et al. alpha(2)-adrenoceptor antagonist properties of OPC-28326, a novel selective peripheral vasodilator. Br J Pharmacol. 2001 Oct;134(4):763-70.

Background

OPC-28326 is a selective peripheral vasodilator and an antagonist of α 2-adrenergic receptor, with K_i of 2040, 285, and 55 nM for α 2A-, α 2B- and α 2C-adrenoceptors,

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respectively.

OPC-28326 enhances endothelial tube formation and promotes microvessel growth. OPC-28326 induces phosphorylation of eNOS and Akt in HAECs in a dose dependent-manner, while it does not affect total amounts of eNOS and Akt[1]. OPC-28326 (1-100 μ M) and yohimbine (10-1000 nM) causes a rightward shift in the concentration-response curve of clonidine[2].

OPC-28326 augments blood flow recovery in murine hindlimb ischemia. OPC-28326 significantly increases the number of histologically detectable capillaries in the ischemic leg. OPC-28326 has no beneficial effects on blood flow recovery in eNOS^{-/-} mice[1]. OPC-28326 (3-30 mg/kg, i.v.) and yohimbine causes dose-dependent rightward shift in the pressor dose-response curve induced by B-HT 920. OPC-28326 does not affect on the mydriasis in rats[2].

[1]. Sumi M, et al. OPC-28326, a selective femoral arterial vasodilator, augments ischemia induced angiogenesis. Biomed Pharmacother. 2007 May;61(4):209-15. Epub 2006 Dec 28. [2]. Orito K, et al. $\alpha(2)$ -adrenoceptor antagonist properties of OPC-28326, a novel selective peripheral vasodilator. Br J Pharmacol. 2001 Oct;134(4):763-70.

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