
Product Data Sheet

Product Name: Endothelin-2, human

Cat. No.: GC35987

Chemical Properties

Cas. No. 123562-20-9

Formula $C_{115}H_{160}N_{26}O_{32}S_4$

M.Wt 2546.92

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:**

Rats[1] For the assay of pressor activity, male Wistar rats weighing 300-350 g are anesthetized with urethane (1 g/kg i.p.) and pretreated with atropine (0.25 mg/kg i.v.), propranolol (1 mg/kg i.v.), and bunazocine (1 mg/kg i.v.). Additional maintenance doses (one-half of the initial doses) of the autonomic blockades are administered every 3-4 hr. Each animal is given only one bolus of Endothelin-2. 1 nM of Endothelin-2 in 50 µL of buffer is bolus injected from a cannula inserted in the right femoral vein. The blood pressure is recorded from a cannula, which is placed in the right carotid artery and connected to a pressure transducer[1].

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

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References:

[1]. Grimshaw M],
et al. Endothelin-
2 is a
macrophage
chemoattractant:
implications for
macrophage
distribution in
tumors. Eur J
Immunol. 2002
Sep;32(9):2393-
400.

Background

Endothelin-2 is a peptide vasoconstrictor and ligand for the endothelin (ET) receptors ET_A and ET_B (K_bs = 32.8 and 1.33 nM, respectively).¹ It induces β-arrestin recruitment in CHO-K1 cells expressing human ET_A and ET_B (pD₂s = 8.75 and 8.55, respectively). *Ex vivo*, endothelin-2 induces vasoconstriction in isolated rat mesenteric arterial beds (ED₅₀ = 90.8 pmol).² Endothelin-2 also induces contraction of isolated rat uteri, an effect which is reversed by the ET_A antagonist BQ-123 but not the ET_B antagonist BQ-788.³ Infusion of endothelin-2 restores vasoconstriction of vessels at the follicular apex of the ovarian follicle and ovulation in Amhr2^{cre/+}Smo2 mice.⁴

1. Maguire, J.J., Kuc, R.E., Pell, V.R., et al. Comparison of human ETA and ETB receptor signalling via G-protein and β-arrestin pathways *Life Sci.* 91(13-14):544-549(2012)
2. Douglas, S.A., and Hiley, C.R. Endothelium-dependent vascular activities of endothelin-like peptides in the isolated superior mesenteric arterial bed of the rat *Br. J. Pharmacol.* 101(1):81-88(1990)
3. Kousides, M., Story, M.E., and Pennefather, J.N. Endopeptidase 24.11 inhibition does not modify uterotonic effects of endothelins in rat uterus *Peptides* 19(9):1585-1593(1998)
4. Migone, F.F., Cowan, R.G., Williams, R.M., et

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al. In vivo imaging reveals an essential role of vasoconstriction in rupture of the ovarian follicle at ovulation Proc. Natl. Acad. Sci. USA 113(8)2294-2299(2016)

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