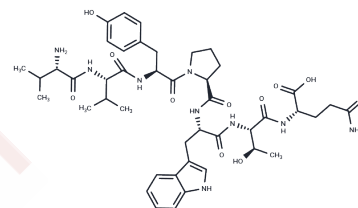


Valorphin

Chemical Properties

CAS No. :	144313-54-2
Formula:	C44H61N9O11
Molecular Weight:	892.01
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Valorphin (Valorphin TFAsalt) has opioid analgesic activity, binds to rat mu-opioid receptor, with an IC50 of 14 nM.
Targets(IC50)	Opioid Receptor
In vivo	In vivo model (female BLRB mice with subcutaneously inoculated syngeneic mammary carcinoma), simultaneous treatment with 25 mg/m ² epirubicin and 1 mg/kg valorphin resulted in 42% of tumor growth inhibition, as compared with the negative control group and 22% inhibition as compared with the epirubicin-treated group (at 20th day of treatment). Survival was significantly improved (69% compared to 39% in the group treated with epirubicin only) at day 26 after the treatment beginning[1].
Animal Research	49 mice were randomized in 4 groups: two groups (12 animals each) corresponding to the negative control, the reference group (13 animals) and the experimental group (12 animals). The control and the reference group were treated as in preliminary experiment, the experimental group were injected with the mixture of valorphin (1 mg/kg) and epirubicin (25 mg/m ²), dissolved in 0.9% NaCl solution in distilled water. Three injections (volume 0.2 ml) were made with 6-day intervals. Since no reliable difference in tumor size or lifespan of animals in the two negative control groups were observed, the data obtained in these groups were pooled. At day 20 after the first injection, the size of the tumors were determined as described above. Tumor volumes were calculated using formula, inhibition of tumor growth was determined using formula. Percentages of survival were determined for 1-26 days of treatment. The observation was quitted after the total death of the animals in the negative control group[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1211 mL	5.6053 mL	11.2106 mL
5 mM	0.2242 mL	1.1211 mL	2.2421 mL
10 mM	0.1121 mL	0.5605 mL	1.1211 mL
50 mM	0.0224 mL	0.1121 mL	0.2242 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Blishchenko E Y , Sazonova O V , Kalinina O A , et al. Antitumor effect of valorphin in vitro and in vivo: Combined action with cytostatic drugs[J]. *Cancer Biology & Therapy*, 2005, 4(1):125-131.

Eyu B , Mernenko O A , Mirkina I I , et al. Tumor Cell Cytolysis Mediated by Valorphin, an Opioid-Like Fragment of Hemoglobin β -Chain[J]. *Peptides*, 1997, 18(1):79-85.

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