Product Data Sheet

Product Name: β-Casomorphin, human (Human β-casomorphin 7)
Cat. No.: GC33784

Chemical Properties

Cas. No.	102029-74-3		
SMILES	Tyr-Pro-Phe-Val-Glu-Pro-Ile		
Formula	$C_{44}H_{61}N_7O_{11}$	M.Wt	864
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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

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Cell experiment:

To study the effect of β-Casomorphin, human and DAMGO, cells are seeded in 12-well culture plates. Experiments are performed 3 (DHE cells) or 21 days (HT29-MTX cells) after confluency. Twenty-four hours before the studies, the culture medium is replaced by serum-free medium to starve the cells from serum and to eliminate any interference from extraneous proteins or hormones. The experimental protocol is then the following: the serum-free medium is removed, and the monolayer cultures of DHE or HT29-MTX are washed twice with PBS (37°C). Serum-free medium with or without β-Casomorphin, human or DAMGO is added to the cells and incubated at 37°C for 30 min to 24 h in a humidified atmosphere. μ-Opioid receptor blockade is performed by preincubating the cells with cyprodime for 30 min before agonist addition. The supernatants are then collected, frozen, and stored at 20°C. Cells are processed with trypsin. The cell numbers per well are determined, and total RNA is isolated. All experiments are performed at least three times in triplicate[2].

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References:

[1]. Brantl V. Novel opioid peptides derived from human beta-casein: human beta-casomorphins. Eur J Pharmacol. 1984 Oct 30;106(1):213-4.
[2]. Koch G, et al. Opioid activities of human beta-casomorphins. Naunyn Schmiedebergs Arch Pharmacol. 1985 Dec;331(4):351-4.

Background

β-Casomorphin, human is an opioid peptide, acts as an agonist of opioid receptor.

β-Casomorphin, human (TyrPro-Phe-Val-Glu-Pro-Ile) is also called human B-casein-(51-57), with the sequenceequivalent to bovine B-casein-(60-66) (Tyr-ProPhe-Pro-G]y-Pro-Ile or B-casomorphin-7)[1]. β-Casomorphin, human (100 μM) increases the expression of rat mucin (rMuc)2 and rMuc3 but not rMuc1, rMuc4, and rMuc5AC in rat DHE cells, also elevates increased MUC5AC mRNA levels[2].

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[1]. Brantl V. Novel opioid peptides derived from human beta-casein: human beta-casomorphins. Eur J Pharmacol. 1984 Oct 30;106(1):213-4. [2]. Zoghbi S, et al. beta-Casomorphin-7 regulates the secretion and expression of gastrointestinal mucins through a mu-opioid pathway. Am J Physiol Gastrointest Liver Physiol. 2006 Jun;290(6):G1105-13.

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