Product Data Sheet

Product Name: b-Casomorphin (1-3)
Cat. No.: GP10125

Chemical Properties

Cas. No.	72122-59-9		
Chemical Name	2-[[1-[2-amino-3-(4-hydroxyphenyl)propanoyl]pyrrolidine-2-carbonyl]amino]-3-phenylpropanoic acid		
SMILES	C1CC(N(C1)C(=O)C(CC2=CC=C(C=C2)O)N)C(=O)NC(CC3=CC=CC=C3)C(=O)O		
Formula	$C_{23}H_{27}N_3O_5$	M.Wt	425.48
Solubility	≥42.5mg/mL 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.		

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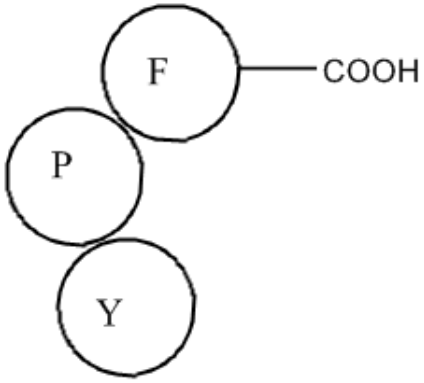
Structure



Background

b-Casomorphin (1-3), with the sequence H2N-Tyr-Pro-Phe-OH, is an opioid-like active tripeptide obtained from the enzymatic digestion of bovine β-casein. Due to genetic diversity among cattle populations, β-casein exists in 17 different variants. In A1 β-casein, the presence of histidine at position 67 makes the peptide bond between residues 66 and 67 more susceptible to enzymatic cleavage, resulting in the release of a specific heptapeptide known as β-casomorphin-7 (BCM-7). BCM-7 is the most common and earliest studied bioactive peptide derived from bovine β-casein. b-Casomorphin (1-3), corresponding to the N-terminal tripeptide of BCM-7, is considered the core active fragment for opioid receptor recognition. b-Casomorphin (1-3) is generally not used as an opioid receptor agonist in cell and animal studies like BCM-7 and is more commonly used for receptor binding and structure–activity relationship studies within the β-casomorphin family[1][2].

References:

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[1] Gard F, Flad LM, Weißer T, Ammer H, Deeg CA. Effects of A1 Milk, A2 Milk and the Opioid-like Peptide β-Casomorphin-7 on the Proliferation of Human Peripheral Blood Mononuclear Cells. Biomolecules. 2024; 14(6):690.
[2] Jinsmaa, Y, and M Yoshikawa. “Enzymatic release of neocasomorphin and beta-casomorphin from bovine beta-casein.” Peptides vol. 20,8 (1999): 957-62.

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