

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 $\geq 42.5\text{mg/mL}$ 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.

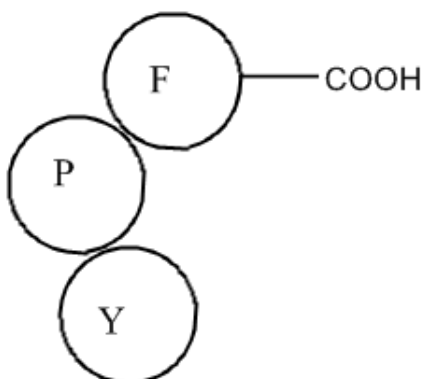
Caution: Product has not been fully validated for medical applications. For research use only.

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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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]}.

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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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