

CPF-7

Cat. No.:	HY-P5291
CAS No.:	103238-06-8
Molecular Formula:	C ₁₁₈ H ₁₉₃ N ₃₃ O ₃₂
Molecular Weight:	2586
Sequence:	Gly-Phe-Gly-Ser-Phe-Leu-Gly-Lys-Ala-Leu-Lys-Ala-Ala-Leu-Lys-Ile-Gly-Ala-Asn-Ala-Leu-Gly-Gly-Ala-Pro-Gln-Gln
Sequence Shortening:	GFGSFLGKALKALKIGANALGGAPQQ
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	CPF-7 (Caerulein precursor fragment) is an insulin-releasing peptide that stimulates the release of insulin. CPF-7 can induce epithelial-mesenchymal transition by upregulating Snai1 expression in PANC-1 ductal cells. CPF-7 also induces exocrine plasticity by upregulating Ngn3 expression. CPF-7 can be used in the research of type 2 diabetes ^{[1][2]} .																
In Vitro	<p>CPF-7 (50 nM; 7 days) converts PANC-1 exocrine cells into pancreatic endocrine precursor cells^[1]. CPF-7 (3 μM; 20 min) produces the stimulation of insulin release in BRIN-BD11 rat clonal β-cells^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Real Time qPCR^[1]</p> <table> <tr> <td>Cell Line:</td> <td>PANC1 cells</td> </tr> <tr> <td>Concentration:</td> <td>50 nM</td> </tr> <tr> <td>Incubation Time:</td> <td>7 days (change medium every 24 h)</td> </tr> <tr> <td>Result:</td> <td>Increased Ngn3 (the principal determinant of endocrine precursor cells) expression level.</td> </tr> </table> <p>Immunofluorescence^[2]</p> <table> <tr> <td>Cell Line:</td> <td>BRIN-BD11 rat clonal β-cells</td> </tr> <tr> <td>Concentration:</td> <td>3 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>20 min</td> </tr> <tr> <td>Result:</td> <td>Stimulated insulin release.</td> </tr> </table>	Cell Line:	PANC1 cells	Concentration:	50 nM	Incubation Time:	7 days (change medium every 24 h)	Result:	Increased Ngn3 (the principal determinant of endocrine precursor cells) expression level.	Cell Line:	BRIN-BD11 rat clonal β-cells	Concentration:	3 μM	Incubation Time:	20 min	Result:	Stimulated insulin release.
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REFERENCES

[1]. Heydari M, et al. Differentiation of PANC-1 ductal cells to β-like cells via cellular GABA modulation by Magainin and CPF-7 peptides. *Biochem Biophys Res Commun.*

2022 Feb 1;597:128-133.

[2]. Srinivasan D, et al. Caerulein precursor fragment (CPF) peptides from the skin secretions of *Xenopus laevis* and *Silurana epittropicalis* are potent insulin-releasing agents. *Biochimie*. 2013 Feb;95(2):429-35.

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

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