

## Human PTHrP-(1-36)

<b>Cat. No.:</b>	HY-106288	
<b>CAS No.:</b>	172867-62-8	
<b>Molecular Formula:</b>	C <sub>191</sub> H <sub>305</sub> N <sub>59</sub> O <sub>52</sub>	
<b>Molecular Weight:</b>	4259.83	AVSEHQLLHDKGKSIQDLRRRFFLHHLIAEIHTAEI
<b>Sequence Shortening:</b>	AVSEHQLLHDKGKSIQDLRRRFFLHHLIAEIHTAEI	
<b>Target:</b>	Others	
<b>Pathway:</b>	Others	
<b>Storage:</b>	Sealed storage, away from moisture and light, under nitrogen	
	Powder	-80°C 2 years -20°C 1 year
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)	

### SOLVENT & SOLUBILITY

<b>In Vitro</b>	H <sub>2</sub> O : 100 mg/mL (23.48 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		0.2348 mL	1.1738 mL	2.3475 mL
		<b>5 mM</b>		0.0470 mL	0.2348 mL	0.4695 mL
	<b>10 mM</b>		0.0235 mL	0.1174 mL	0.2348 mL	
Please refer to the solubility information to select the appropriate solvent.						

### BIOLOGICAL ACTIVITY

<b>Description</b>	Human PTHrP-(1-36) is a secretory form of PTHrP with anticalciuric effects. Human PTHrP-(1-36) enhances beta cell function and proliferation. Human PTHrP-(1-36) can be used in the research of humoral hypercalcemia of malignancy (HMM) and hyperparathyroidism <sup>[1][3]</sup> .
<b>In Vitro</b>	Human PTHrP-(1-36) (EC <sub>50</sub> : 0.05 nM) increases intracellular calcium in human epidermal keratinocytes <sup>[2]</sup> . Human PTHrP-(1-36) (100 nM, 24 h) increases human β-cell proliferation <sup>[3]</sup> . Human PTHrP-(1-36) (100 nM, 30 min) enhances insulin secretion in human islets <sup>[3]</sup> . PTHrP-(1-36) (mouse, EC <sub>50</sub> : 1 nM) induces a rapid Ca <sup>2+</sup> response in UMR 106 cells <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	PTHrP-(1-36) (mouse, 160 μg/kg, s.c., for 5 days/week for 7, 30, or 90 days) enhances beta cell regeneration and increases beta cell mass in a mouse model of partial pancreatectomy <sup>[5]</sup> . PTHrP-(1-36) (mouse, 100 μg/kg, s.c., every other day) reverses the observed decrease of Wisp1 expression in the diabetic

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mice<sup>[6]</sup>.

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## REFERENCES

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- [1]. Everhart-Caye M, et al. Parathyroid hormone (PTH)-related protein(1-36) is equipotent to PTH(1-34) in humans. *J Clin Endocrinol Metab.* 1996 Jan;81(1):199-208.
- [2]. Orloff JJ, et al. Analysis of PTHrP binding and signal transduction mechanisms in benign and malignant squamous cells. *Am J Physiol.* 1992 May;262(5 Pt 1):E599-607.
- [3]. Guthalu Kondegowda N, et al. Parathyroid hormone-related protein enhances human  $\beta$ -cell proliferation and function with associated induction of cyclin-dependent kinase 2 and cyclin E expression. *Diabetes.* 2010 Dec;59(12):3131-8.
- [4]. Valín A, et al. C-terminal parathyroid hormone-related protein (PTHrP) (107-139) stimulates intracellular Ca(2+) through a receptor different from the type 1 PTH/PTHrP receptor in osteoblastic osteosarcoma UMR 106 cells. *Endocrinology.* 2001 Jul;142(7):2752-9.
- [5]. Mozar A, et al. Parathyroid Hormone-Related Peptide (1-36) Enhances Beta Cell Regeneration and Increases Beta Cell Mass in a Mouse Model of Partial Pancreatectomy. *PLoS One.* 2016 Jul 8;11(7):e0158414.
- [6]. Portal-Núñez S, et al. Alterations of the Wnt/beta-catenin pathway and its target genes for the N- and C-terminal domains of parathyroid hormone-related protein in bone from diabetic mice. *FEBS Lett.* 2010 Jul 16;584(14):3095-100.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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