

## Humanin

<b>Cat. No.:</b>	HY-P1928	
<b>CAS No.:</b>	330936-69-1	
<b>Molecular Formula:</b>	C <sub>119</sub> H <sub>204</sub> N <sub>34</sub> O <sub>32</sub> S <sub>2</sub>	
<b>Molecular Weight:</b>	2687.23	MAPRGFSCLLLLTSEIDLPKRRA
<b>Sequence:</b>	Met-Ala-Pro-Arg-Gly-Phe-Ser-Cys-Leu-Leu-Leu-Leu-Thr-Ser-Glu-Ile-Asp-Leu-Pro-Val-Lys-Arg-Arg-Ala	
<b>Sequence Shortening:</b>	MAPRGFSCLLLLTSEIDLPKRRA	
<b>Target:</b>	Bcl-2 Family	
<b>Pathway:</b>	Apoptosis	
<b>Storage:</b>	Sealed storage, away from moisture and light	
	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)	

### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (37.21 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	<b>Preparing Stock Solutions</b>			1 mg	5 mg
		1 mM		0.3721 mL	1.8607 mL
		5 mM		0.0744 mL	0.3721 mL
	10 mM		0.0372 mL	0.1861 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 10 mg/mL (3.72 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 10 mg/mL (3.72 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 10 mg/mL (3.72 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Humanin, an anti-apoptotic peptide of 24 amino acids, is a Bax inhibitor. Humanin prevents the translocation of Bax from cytosol to mitochondria, blocks Bax from the inactive to active conformation. Humanin is a mitochondria-associated peptide with a neuroprotective effect against AD-related neurotoxicity. Humanin also improves overall insulin sensitivity in
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	<p>animal. Humanin are related to aging<sup>[1][2]</sup>.</p> <p>Humanin analogue, in which the serine at position 14 is replaced by glycine, names HNG<sup>[2]</sup>.</p>
<b>IC<sub>50</sub> &amp; Target</b>	Bax
<b>In Vitro</b>	<p>Humanin (40 nM, rhodamine-conjugated; 30 min) inhibits cell death induced by Bax protein in wild-type HCT116 cells<sup>[1]</sup>.</p> <p>Humanin (100 μM; 10 min) blocks Bax association with isolated mitochondria, and suppresses cytochrome c release in wild-type HCT116 cells<sup>[1]</sup>.</p> <p>Humanin reduces half apoptosis induced by 0.2 mM STS<sup>[1]</sup>.</p> <p>Humanin fails to suppress apoptosis in Bax-deficient HCT116 cells<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>Humanin (0.375 mg/kg/hr; i.v.) increases peripheral insulin sensitivity in Zucker diabetic fatty (ZDF) rats<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

## REFERENCES

- [1]. Guo B, et al. Humanin peptide suppresses apoptosis by interfering with Bax activation. *Nature*. 2003 May 22;423(6938):456-61.
- [2]. Muzumdar RH, et al. Humanin: a novel central regulator of peripheral insulin action. *PLoS One*. 2009 Jul 22;4(7):e6334.

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

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