

Humanin

Humanin is a 24-amino-acid mitochondrial-derived peptide first described in 2001 as a factor protecting neurons from death linked to Alzheimer's disease genes. It is studied in cell and animal models of neurodegeneration, metabolism and aging and is not approved for any use.



MAPRGFSCLLLLLTSEIDLVPVKRRA

■ Hydrophobic
 ■ Acidic
 ■ Basic
 ■ Polar
 ■ Gly, Pro, Cys
 ■ Non-standard

Length	24 residues
Formula	C ₁₁₉ H ₂₀₄ N ₃₄ O ₃₂ S ₂
Average mass	2,687.23 g/mol
Monoisotopic mass	2,685.4822 Da
Evidence	Preclinical (animal and cell studies)
US status	Not FDA-approved for any use
WADA	Check the current Prohibited List

24 residues, encoded within the mitochondrial 16S rRNA gene.

Expected ions (monoisotopic)

[M+H] ⁺	[M+2H] ²⁺	[M+3H] ³⁺	[M+4H] ⁴⁺
2,686.4895	1,343.7484	896.1680	672.3778

What the COA should show

A certificate of analysis should confirm identity by mass spectrometry, with the observed mass matching the expected mass shown on this page, and report HPLC purity with the chromatogram. Because the S14G analogue HNG and other variants circulate, the COA should state exactly which sequence was made; a serine-to-glycine change shifts the mass by a small but detectable amount. The N-terminal methionine and cysteine 8 are prone to oxidation, and the free thiol can form disulfide-linked dimers, so oxidized and dimeric species should be looked for. The hydrophobic leucine stretch can promote aggregation. The counter-ion should be named.

Storage and stability

Store lyophilized humanin sealed at -20 °C or colder, protected from light and moisture, and warm vials to room temperature before opening. Because it contains methionine and a free cysteine, minimize exposure to air and consider degassed buffers or inert-gas overlay for solutions. Its hydrophobic region can make dissolution and aggregation behavior sensitive to pH and concentration. Prepare solutions for lab use in sterile buffer, aliquot them, store at -20 °C or below, and avoid repeated freeze-thaw cycles.

Full entry, references and latest research: <https://peptidewiki.net/compounds/humanin/>
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