



OS-01 peptide structure and cas#

The OS-01 peptide is described as a short-chain peptide and AMPK activator with the chemical formula $C_{16}H_{11}ClN_3O_2S$, a molecular weight of 380.2 g/mol, and a CAS number of 1261289-04-6. It is also known by synonyms including O-304, ATX-304, and 4-chloro-N-[2-[(4-chlorophenyl)methyl]-3-oxo-1,2,4-thiadiazol-5-yl]benzamide. ^[1] ^[2]

Structure and Description

- **Chemical Formula:** $C_{16}H_{11}ClN_3O_2S$ ^[2] ^[1]
- **CAS Number:** 1261289-04-6 ^[1] ^[2]
- **Other Names:** O-304, ATX-304 ^[2]
- **Structure Class:** 1,2,4-thiadiazole derivative with benzamide group ^[2]

Biological Role

OS-01 is used primarily in research settings to activate AMP-activated protein kinase (AMPK), having roles in enhanced mitochondrial function, improved glucose homeostasis, anti-aging processes, and reduced oxidative stress and inflammation. ^[3] ^[1]

Application

It is administered both orally and topically, most notably for its effects on skin barrier function, reduction in cellular senescence, and potential systemic anti-inflammatory effects. ^[4] ^[3]

Summary Table

Property	Value
Chemical Formula	$C_{16}H_{11}ClN_3O_2S$ ^[1] ^[2]
Molecular Weight	380.2 g/mol ^[1]
CAS Number	1261289-04-6 ^[1] ^[2]
Synonyms	O-304, ATX-304 ^[2]
Structure Type	Thiadiazole-Benzamide derivative ^[2]

For proprietary OS-01 peptide formulations targeting skin health, the exact amino acid sequence may differ, with some sources listing a potential sequence like YPNQVYYRPVDQYSNQNNFVHDCVNITVK (29 aa); however, this may refer to other peptide blends, not specifically the AMPK activator OS-01 noted above. If you need a depiction of the

chemical structure, the CAS number 1261289-04-6 and PubChem CID 50923806 can provide structural diagrams on chemical databases. ^[5] ^[1] ^[2]

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1. <https://www.peptidesciences.com/os-01-100mg-30-capsules>
2. <https://swisschems.is/product/os-01-100mg-30caps/>
3. <https://www.lifespan.io/news/os-01-peptide-tested-in-skin-aging-pilot-study/>
4. <https://onlinelibrary.wiley.com/doi/10.1111/jocd.16242>
5. <https://glyconnect.expasy.org/all/bioassoc/composition/1332/structure/9918/peptide>
6. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11975214/>
7. <https://www.oneskin.co/products/01-face-topical-supplement>
8. <https://onlinelibrary.wiley.com/doi/10.1111/ics.13042>
9. <https://www.oneskin.co/products/os-01-hair>