bio-techne
TOCRIS

Print Date: Jul 3rd 2025

Certificate of Analysis

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Product Name: **[D-Ala^2]-GIP (human)**
CAS Number: 444073-04-5

Catalog No.: 6699 **Batch No.: 8**

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{226}H_{338}N_{60}O_{66}S$

Batch Molecular Weight: 4983.58

Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Tyr-D-Ala-Glu-Gly-Thr-Phe-Ile-Ser-Asp-Tyr-Ser-Ile-Ala-Met-Asp-Lys-Ile-His-Gln-Gln-Asp-Phe-Val-Asn-Trp-Leu-Leu-Ala-Gln-Lys-Gly-Lys-Lys-Asn-Asp-Trp-Lys-His-Asn-Ile-Thr-Gln

2. ANALYTICAL DATA

HPLC: Shows 97.2% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	3.00	2.91	Lys	5.00	4.83
Arg			Met	1.00	1.01
Asx	7.00	6.08	Phe	2.00	2.03
Cys			Pro		
Glx	5.00	5.03	Ser	2.00	1.96
Gly	2.00	2.07	Thr	2.00	1.68
His	2.00	1.87	Trp	2.00	
Ile	4.00	3.83	Tyr	2.00	2.05
Leu	2.00	2.14	Val	1.00	1.15

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Product Name: **[D-Ala^2]-GIP (human)**

Catalog No.: 6699 **Batch No.: 8**

CAS Number: 444073-04-5

Description:

[D-Ala^2]-GIP (human) is a highly potent GIP receptor agonist (EC_{50} = 630 ± 119 pM). Displays equivalent cAMP stimulating properties and improved resistance to enzymatic degradation compared to native GIP (Cat. No. 2084) in cells expressing wild type GIP receptor. Improves glucose tolerance, insulin release and cognitive function in various animal models of obesity and diabetes. Displays neuroprotective effects in an MPTP model of PD.

Physical and Chemical Properties:

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Peptide Sequence:

Tyr-D-Ala-Glu-Gly-Thr-Phe-Ile-Ser-Asp-Tyr-Ser-Ile-Ala-Met-Asp-Lys-Ile-His-Gln-Gln-Asp-Phe-Val-Asn-Trp-Leu-Leu-Ala-Gln-Lys-Gly-Lys-Lys-Asn-Asp-Trp-Lys-His-Asn-Ile-Thr-Gln

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Counter Ion: TFA

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Peptides in solution are much less stable than in lyophilized form. This is especially true for peptides whose sequences contain amino acids such Cys, Met,Trp, Asn, Gln, and N-terminal Glu.

Therefore we recommend storing peptides in solution for as short a time as possible. Avoid repeated freeze thaw cycles by dividing the peptide solution into aliquots and storing the aliquots at -20°C. Any portion of an aliquot unused after thawing should be discarded.

Peptides stored in solution can occasionally be susceptible to bacterial degradation. We recommend using sterile solutions or passing the peptide solution through a 0.2 µm filter to remove potential bacterial contamination whenever possible.

References:

Verma *et al* (2017) Effect of D-Ala^{2}GIP, a stable GIP receptor agonist on MPTP-induced neuronal impairments in mice. Eur.J.Pharmacol. ***804*** 38. PMID: 28366809.

Porter *et al* (2011) Prolonged GIP receptor activation improves cognitive function, hippocampal synaptic plasticity and glucose homeostasis in high-fat fed mice. Eur.J.Pharmacol. ***650*** 688. PMID: 21050845.

Hinke *et al* (2002) Dipeptidyl peptidase IV-resistant [D-Ala^2]glucose-dependent Insotropic polypeptide (GIP) improves glucose tolerance in normal and obese diabetic rats. Diabetes. ***51*** 652. PMID: 11872663.