

Adipokinetic hormone I (Locusta migratoria)

Cat. No.:	HY-P3572
CAS No.:	61627-67-6
Molecular Formula:	C ₅₄ H ₇₄ N ₁₄ O ₁₅
Molecular Weight:	1159.25
Sequence Shortening:	{Glp}-LNFTPNWGT-NH2
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Adipokinetic hormone I (Locusta migratoria) (Lom-AKH-I) is a insect adipokinetic hormone (AKH), enhances fat body cAMP levels in vitro. Insect adipokinetic hormones (AKHs) controls flight-directed mobilization of carbohydrate and lipid from fat body stores, which depends on AKH receptor(s) coupling to cAMP formation and glycogen phosphorylase activation via the stimulatory guanine nucleotide-binding protein (Gs) ^{[1][3]} .
In Vitro	Adipokinetic hormone I (Locusta migratoria) (radiolabeled; 1 pmol in 10 µL of 10% methanol; 30 min on ice, and repeated for 2 h at 30 °C) shows no association with one of the larger protein components, indicating a lack of separate transporting or carrier protein in the hemolymph ^[1] . Adipokinetic hormones (AKHs) are known to be involved in insect immunity and shows the mechanism of metabolic stimulation, leading a significant increase in carbon dioxide production, and efficacy increase of toxins produced by <i>I. fumosorosea</i> in the cockroach's body ^[2] . Adipokinetic hormone II is more effective than hormone I in bringing about an accumulation of cAMP in the fat body ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Adipokinetic hormone I (Locusta migratoria) (1 pmol in 10 µL of 10% methanol; injection) plays its own biol. role in the overall syndrome of insect flight, with different half-lives of 51 min and 35 min during rest and flight, respectively ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Oudejans RC, et al. Locust adipokinetic hormones: carrier-independent transport and differential inactivation at physiological concentrations during rest and flight. *Proc Natl Acad Sci U S A*. 1996 Aug 6;93(16):8654-9.
- [2]. Gautam UK, et al. Adipokinetic hormone promotes infection with entomopathogenic fungus *Isaria fumosorosea* in the cockroach *Periplaneta americana*. *Comp Biochem Physiol C Toxicol Pharmacol*. 2020 Mar;229:108677.
- [3]. Vroemen SF, et al. Stimulation of glycogenolysis by three locust adipokinetic hormones involves Gs and cAMP. *Mol Cell Endocrinol*. 1995 Feb;107(2):165-71.
- [4]. Goldsworthy, et al. The relative potencies of two known locust adipokinetic hormones. 1986;32(1):95-101.

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

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