
Product Data Sheet

Product Name: δ -Sleep Inducing Peptide (Delta-Sleep Inducing Peptide)

Cat. No.: GC31172

Chemical Properties

Cas. No. 62568-57-4

SMILES Trp-Ala-Gly-Gly-Asp-Ala-Ser-Gly-Glu

Formula C₃₅H₄₈N₁₀O₁₅ M.Wt 848.81

Solubility Soluble in Water Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure **Protocol**

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

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Animal experiment:

Rats[2]Experiments are performed on male Wistar rats (n = 100) weighing 250-280 g. The animals are divided into groups (10 specimens per group). They are maintained under standard vivarium conditions and have free access to water and food (12:12-h light/dark regimen). δ -Sleep Inducing Peptide is dissolved in physiological saline and injected intraperitoneally 60 min before each stress exposure. Control animals receive an equivalent volume of physiological saline (1 mL/kg). The liver is homogenized in ice-cold physiological saline and centrifuged. The content of LPO products and activities of antioxidant enzymes are measured in the supernatant. LPO intensity is evaluated by malonic dialdehyde (MDA) concentration. Activities of superoxide dismutase (SOD) and catalase are measured spectrophotometrically. The total antioxidant activity (TAA) is evaluated by the method based on inhibition of ascorbate-induced and iron-induced oxidation of Tween-80 to MDA. The assay is conducted on a BTS-330 biochemical analyzer[2].

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References:

- [1]. Monnier M, et al. The delta sleep inducing peptide (DSIP). Comparative properties of the original and synthetic nonapeptide. *Experientia*. 1977 Apr 15;33(4):548-52.
- [2]. Bobyntsev II, et al. Effect of Delta Sleep-Inducing Peptide on Functional State of Hepatocytes in Rats During Restraint Stress. *Bull Exp Biol Med*. 2016 Feb;160(4):421-4.

Background

δ -Sleep Inducing Peptide is a neuropeptide, with antioxidant and anxiolytic properties. In rabbit infused with δ -Sleep Inducing Peptide (DSIP), the spindle activity is increased,

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and heart and respiration rate are moderately decreased. δ -Sleep Inducing Peptide (DSIP) may act as a programming modulator at supra-operational level rather than as a transmitter at operational level[1]. δ -Sleep Inducing Peptide (DSIP; 40 $\mu\text{g}/\text{kg}$, i.p.) increases catalase and superoxide dismutase (SOD) activities and malonic dialdehyde (MDA) concentration in the liver homogenate of rats subjected to acute stress, but the opposite effects are observed at 120, and 360 $\mu\text{g}/\text{kg}$ [2].

[1]. Monnier M, et al. The delta sleep inducing peptide (DSIP). Comparative properties of the original and synthetic nonapeptide. *Experientia*. 1977 Apr 15;33(4):548-52. [2]. Bobyntsev II, et al. Effect of Delta Sleep-Inducing Peptide on Functional State of Hepatocytes in Rats During Restraint Stress. *Bull Exp Biol Med*. 2016 Feb;160(4):421-4.

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