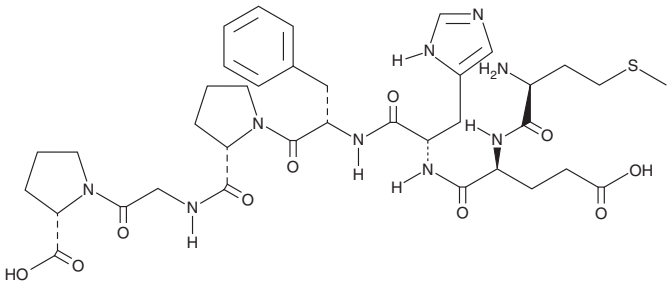
PRODUCT INFORMATION

Semax

Item No. 27719

CAS Registry No.:	80714-61-0
Formal Name:	L-methionyl-L-α-glutamyl-L-histidyl-L-phenylalanyl-L-prolylglycyl-L-proline
Synonym:	$ACTH_{4-7}$-PGP
MF:	$C_{37}H_{51}N_9O_{10}S$
FW:	813.9
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Semax is supplied as a solid. A stock solution may be made by dissolving the semax in the solvent of choice, which should be purged with an inert gas. Semax is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of semax in these solvents is approximately 5 and 1 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of semax can be prepared by directly dissolving the solid in aqueous buffers. The solubility of semax in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Semax is a synthetic peptide analog of adrenocorticotropic hormone (ACTH) (4-10) (Item No. 27106) that has neuroprotective, analgesic, and anxiolytic properties.[1-3] *In vivo*, semax (0.3 mg/kg) reduces cortical nitric oxide (NO) production and the number of neurological disturbances, such as seizures, falling, and twisting, in a rat model of global ischemia.[1] It decreases acetic acid-induced writhing and nociception in a hind paw compression test in mice when administered at doses ranging from 0.015 to 0.5 mg/kg.[2] Semax also increases time spent in the open arms in the elevated plus maze, indicating anxiolytic activity, in a rat model of maternal deprivation-induced anxiety.[3]

References

1. Bashkatova, V.G., Koshelev, V.B., Fadyukova, O.E., *et al.* Novel synthetic analogue of ACTH 4-10 (Semax) but not glycine prevents the enhanced nitric oxide generation in cerebral cortex of rats with incomplete global ischemia. *Brain Res.* **894(1)**, 145-149 (2001).
2. Ivanova, D.M., Levitskaya, N.G., Andreeva, L.A., *et al.* Comparative study of analgesic potency of ACTH4-10 fragment and its analog semax. *Bull. Exp. Biol. Med.* **143(1)**, 5-8 (2007).
3. Volodina, M.A., Sebentsova, E.A., Glazova, N.Y., *et al.* Semax attenuates the influence of neonatal maternal deprivation on the behavior of adolescent white rats. *Bull. Exp. Biol. Med.* **152(5)**, 560-563 (2012).

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