

International name: **Semax**

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Available in the form of nasal drops of 0.1% or 1% to 3 ml vials.

Characteristic: A synthetic heptapeptide - analogue of ACTH fragment 4-10 (glutamyl methionyl histidyl-prolyl glycyl-phenylalanyl-proline), devoid of hormonal activity. All amino acids are L-shaped.

Pharmacologic effect: Mode of action - cerebroprotective, anti-hypoxic, nootropic and antioxidant.

Pharmacodynamics: Semax has an original mechanism of action neurospecific CNS.

Semax neyrometabolicheskies has a strong effect, manifested even in the appointment of its in very small doses. Higher doses Semax, keeping neyrometabolicheskies properties of low doses, have a pronounced anti-oxidant, anti-hypoxic, angioprotegouoe and neurotrophic effects. When administered intranasally Semax 4 min penetrate the BBB, and the therapeutic effect of a single injection lasts 20-24 hours, due to its sequential degradation, in which most of the effects of neuropeptide preserved in fragments.

Neyrometabolicheskies

The drug affects the processes associated with the formation of memory and learning. Semax strengthens focus on learning and analyzing information, and improves the consolidation memory trace; improves organism adaptation to hypoxia, cerebral ischemia, anesthesia and other damaging effects.

Semax has a stimulating effect on the population of cholinergic neurons of the basal forebrain nuclei.

Directed Semax effect on cholinergic neurons is accompanied by a significant increase in activity of the enzyme acetylcholinesterase specific structures of the brain that correlate with the improvement of learning and memory formation.

Neuroprotective

Semax affects the processes of delayed neuronal death, including local inflammation, the formation of nitric oxide, oxidative stress and dysfunction of trophic factors. Powerful, comparable with the effect of NGF, trophotropic Semaksa® effect on cholinergic neurons of the group in complete medium and in adverse conditions due to deprivation of oxygen and glucose. Semax genetically includes neurotrophins synthesis - growth regulators and differentiation of neural tissue (BDNF factor).

Semax has a direct effect on the molecular trigger mechanisms to normalize cytokine balance and to increase the level of anti-inflammatory factors, reduces the formation of nitrogen oxide, causing inhibition of lipid peroxidation (LPO), superoxide dismutase activation synthesis (SOD) and the reduction of cyclic guazinmonofosfata (cGMP).

Antioxidant, anti-hypoxic

Semax a positive effect on the body's adaptation to hypoxia. The ability of the drug to stop postgiperventilyatsionnye EEG effects caused by a compensatory reduction in cerebral blood flow.

The preparation is practically non-toxic after a single and long-term administration. Not showing allergic, embryotoxic, teratogenic and mutagenic properties. There has local irritating action.

Pharmacokinetics Absorbed by the mucous membrane of the nasal cavity, with the absorbed to 60-70% based on the active substance. Semax rapidly distributed to all organs and tissues, penetrate the BBB. When injected into the blood Semax undergoes sufficiently rapid degradation and excretion of urine.

Indications Semax drug:

Semax nasal drops 0.1%

Intellectual and mental disorders in vascular brain lesions;

- condition after head injury, brain surgery and anesthesia;
- encephalopathy;
- transient ischemic attacks, and the neurotic disorders of various origins, including after ionizing radiation;
- the recovery period after a stroke;
- increasing the adaptive capacities of the human body in extreme situations;
- Prevention of mental fatigue when the monotone operator activity in the most intense periods of work in a stressful environment;
- atrophy of the optic nerve;
- neuritis the inflammatory, toxic and allergic etiology;
- as nootropic agents in children aged 5 years in the treatment of minimal brain dysfunction (including attention deficit hyperactivity disorder).

Semax nasal drops 1%

Ischemic stroke (acute phase).

Contraindications

Semax nasal drops 0.1%

- Hypersensitivity to the drug;
- pregnancy;
- lactation;
- acute psychosis;
- disorders accompanied by anxiety;
- seizures in history;
- Children up to age 5 years.

Semax nasal drops 1%

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Side effects: With prolonged use possible severe irritation of the nasal mucosa.

Interaction: Pharmaceutical. Based on the chemical structure of the drug presence of chemically incompatible combinations are not supposed to: the drug quickly breaks down and does not enter the digestive tract.

Pharmacokinetic.

Given the chemical structure of the drug (heptapeptide - a synthetic analogue of ACTH, completely devoid of hormonal activity), the speed of absorption and the rate of admission into the bloodstream, as well as the intranasal route of administration, the effect of other drugs on the pharmacokinetic parameters Semax not assumed. Given Semax route of administration (intranasal) intranasal desirable agents possessing local vasoconstrictive action.

Dosing and Administration: Intranasal using a bottle, a sealed plastic cap-pipette.

Semax nasal drops 0.1%

One drop of the standard solution contains 50 mg of active substance. Pipette the solution of the drug in an amount of not more than 2-3 drops administered in each nostril. If necessary, increase the dosage administration is carried out in several stages with intervals of 10-15 minutes.

A single dose of 200-2000 mg (calculated 3-30 mcg / kg).

The daily dose - 500-5000 mcg (calculated 7-70 mcg / kg).

The drug is administered daily for 3-5 days, if necessary treatment extend to 14 days.

In diseases of the optic nerve drug instill 2-3 drops in each nostril 2-3 times a day. The daily dose - 600-900 mg. The course of treatment - 7-10 days.

Furthermore, the drug can be administered by intranasal electrophoresis. The drug is injected from the anode. Current - 1 mA, duration of exposure - 08/12/15 min.

The daily dose - 400-600 mg. The course of treatment - 7-10 days.

In pediatrics: with minimal brain dysfunction drug instill 1-2 drops in each nostril 2 times a day (morning and afternoon). The daily dose - 200-400 mg. The course of treatment - 30 days.

Semax nasal drops 1%

The volume of one drop is 0.05 ml (50 .mu.l). One drop of the standard solution contained 500 mg of active substance.

Moderate stroke at a time is entered for 2-3 drops into each nostril, that is 2000 mg (four drops or 0.2 ml) - 3000 g (6 drops or 0.3 ml). Digging is performed 3-4 times per day, with an interval between the instillation of 4.3 hours daily dose is 6000 mg (12 drops or 0.6 ml.) - 12 000 mg (24 drops or 1.2 ml).

In severe stroke is entered at a time of 3-4 drops into each nostril, that is 3000 mg (6 drops or 0.3 ml) - 4000 g (8 drops or 0.4 ml). Digging is performed 4-5 times a day with an interval between the instillation of 2.5-3 hours daily dose is 12,000 g (24 drops or 1.2 ml.) - 20 000 mg (40 drops or 2.0 ml).

The drug is administered daily for 10 days.

Overdose

Manifestations of drug overdose has not yet been able to identify even with a significant increase in single dose.

The shelf life of the drug Semax

2 years.

Do not use beyond the expiration date printed on the package.