Summary of Product Characteristics

1 NAME OF THE VETERINARY MEDICINAL PRODUCT

NEOSKILAB 1.5 mg/ml solution for injection for cattle, sheep, goats and horses

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains:
Active substance:
Neostigmine metilsulfate 1.5 mg
Equivalent to 1.0 mg of Neostigmine

Excipients:
Methyl Parahydroxybenzoate (E 218) 1.0 mg
Propyl Parahydroxybenzoate 0.2 mg

For the full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Solution for injection
Clear and colourless solution free from particles.

4 CLINICAL PARTICULARS

4.1 Target Species

Cattle, sheep, goats and horses.

4.2 Indications for use, specifying the target species

Cattle, sheep and goats:
- Ruminal atony
- Intestinal atony

Horses:
- Intestinal atony
- Bladder atony

4.3 Contraindications

Do not use in cases of mechanical obstruction of the gastrointestinal or the urinary tract, peritonitis and doubtful viability of the intestinal wall.
Do not use in animals with known cases of hypersensitivity to the active substance or to any of the excipients.
Do not use in case of proximal disorders of the enteral tract in horses.
Do not use in pregnant or lactating animals (see section 4.7)

4.4 Special warnings for each target species

None.

4.5 Special precautions for use

Special precautions for use in animals
The animal must be monitored for the appearance of cholinergic effects (see section 4.6) as adverse effects are dose-related.
The product should be used with caution in the following conditions

- Bronchial asthma (mainly in horses)
- Cardiac arrhythmia (risk of bradycardia)
- Peptic ulcer disease (because of increase of gastric secretions)

Special precautions to be taken by the person administering the veterinary medicinal product to animals
Neostigmine is an acetylcholinesterase enzyme inhibitor. Do not use this medicinal product if your doctor has advised you that you should not work with anticholinesterase substances.
Neostigmine, propylene glycol and esters of parahydroxybenzoic acid may cause allergic reactions. People with known hypersensitivity to neostigmine or any of the excipients should avoid contact with the veterinary medicinal product.
The veterinary medicinal product should not be administered by pregnant women.
In case of accidental self-injection, the following adverse effects may occur: myosis, gastro-intestinal troubles (nausea, vomiting, diarrhea), muscular cramps or fasciculations. Seek medical advice immediately and show the package leaflet or the label to the physician.

4.6 Adverse reactions (frequency and seriousness)

Adverse reactions to neostigmine are dose dependent and are associated with excessive cholinergic stimulation (See section 4.10).
Adverse effects should be rare at therapeutic doses.

The frequency of adverse reactions is defined using the following convention:
- very common (more than 1 in 10 animals treated displaying adverse reaction(s))
- common (more than 1 but less than 10 animals in 100 animals treated)
- uncommon (more than 1 but less than 10 animals in 1,000 animals treated)
- rare (more than 1 but less than 10 animals in 10,000 animals treated)
- very rare (less than 1 animal in 10,000 animals treated, including isolated reports).

4.7 Use during pregnancy, lactation or lay

Do not use during pregnancy
Do not use during lactation because the tolerance of the veterinary medicinal product has notbeen established in the suckling off-spring in the target species

4.8 Interaction with other medicinal products and other forms of interactions

Do not administer together with other cholinesterase inhibitors or depolarizing neuromuscular blocking agents (succinylcholine).
Corticosteroids may decrease the anticholinesterase activity of neostigmine. After stopping the corticosteroid treatment, neostigmine can increase the anticholinesterase activity.
Administration of magnesium by the parenteral route antagonises the anticholinesterase activity of neostigmine, because of its direct depressor effect on skeletal muscle.
Atropine reverses muscarinic effects of neostigmine.

4.9 Amounts to be administered and administration route

Subcutaneous or intramuscular use.
0.022 mg/kg b.w. of neostigmine metilsulfate or 0.015 mg/kg b.w of neostigmine (equivalent to 0.15 ml/10 kg b.w. of the product).

Dosage requirements should be adjusted by the veterinarian.

The rubber stopper of the vial may be safely punctured up to 20 times

4.10 Overdose (symptoms, emergency procedures, antidotes), if necessary

In case of overdose, the main clinical signs are notable muscular weakness, vomiting, colic, diarrhoea, miosis, dyspnoea, bradycardia, hypotension, bronchospasm. Death results from respiratory failure. In case of overdose, atropine can be used for reversing muscarinic effects of neostigmine.

4.11 Withdrawal period(s)

Meat and offal: Zero days.
Milk: Zero hours

5 PHARMACOLOGICAL or IMMUNOLOGICAL PROPERTIES

Pharmacotherapeutic group: Anticholinesterases.
ATCvet code: QN07AA01

5.1 Pharmacodynamic properties

Neostigmine metilsulfate is an anticholinesterase. It acts by binding to some points of the cholinesterase molecule preventing it from reacting with acetylcholine. The drug blocks the active site of acetylcholinesterase so the enzyme can no longer break down the acetylcholine molecules before they reach the postsynaptic membrane receptors. Therefore, with the acetylcholinesterase blocked, acetylcholine can bind to the few receptors and trigger a muscular contraction. In addition, neostigmine indirectly stimulates both nicotinic and muscarinic receptors.
Neostigmine has a quaternary nitrogen; hence, it is polar and does not cross the blood-brain barrier and enter the CNS.
The intensity and duration of the anticholinesterasic action depends on the binding intensity and the speed of spontaneous reversibility of that binding.

- It produces a contraction of the intestinal smooth fibre of spontaneous reversibility of the digestive tract. Therefore, the peristaltic movements as well as the secretions are increased (10-30 minutes after the parenteral administration).
- On the respiratory tract it produces a contraction of the bronchial smooth muscle, an increase of the ciliar activity and bronchial secretions.
- On the circulatory system, it produces a reduction of the heart rate and contractility and vasodilatation.
- On the urinary tract, it produces a contraction of the bladder smooth muscle.
- On the skeletal muscle it has an anticuraric effect.

5.2 Pharmacokinetic particulars

No available information on the target species.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Methyl Parahydroxybenzoate (E 218)
Propyl Parahydroxybenzoate
Sodium chloride
Propylene glycol
Water for injections

6.2 Major incompatibilities

In the absence of compatibility studies, this veterinary medicinal product must not be mixed with other veterinary medicinal products.

6.3 Shelf-life

Shelf life of the veterinary medicinal product as packaged for sale: 3 years
Shelf life after first opening the immediate packaging: 28 days

6.4 Special precautions for storage

Keep the vial in the outer carton in order to protect from light.
This veterinary medicinal product does not require any special temperature storage conditions.

6.5 Nature and composition of immediate packaging

Type II amber glass vials closed with chlorobutyl rubber stoppers Ph.Eur type I and aluminium caps.

Package sizes:
Card box containing a 25 ml vial

6.6 Special precautions for the disposal of unused veterinary medicinal products or waste materials derived from the use of such products

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal product should be disposed of in accordance with local requirements.

7 MARKETING AUTHORISATION HOLDER

Labiana Life Sciences, S.A.
C/Venus, 26
08228 Terrassa
Spain

8 MARKETING AUTHORISATION NUMBER(S)

VPA10402/004/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 11 June 2021

10 DATE OF REVISION OF THE TEXT