

# RABIES

The entire of South Africa has been declared a rabies-area by the Veterinary Services department. All dogs travelling between provinces must have a valid vaccination-travel permit. Bird dogs and their wingshooter families are a high-risk group and particularly exposed to this horrible and deadly disease that kills all mammals. Once the symptoms have developed, there is no cure... →

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# 'DEADLIEST OF ALL DISEASES'

*The entire South Africa has been declared rabies-endemic and it is now compulsory for all dogs and cats to be vaccinated at least once every three years*

**R**abies, a fatal disease of humans and all other mammals, is caused by a virus that has been associated with animal bites for more than 3 000 years and it is the oldest infectious disease known to medical science. Dogs have long been recognised as the main transmitters of the disease to people. When compared with other formidable human diseases such as bubonic plague and smallpox, and animal diseases such as rinderpest and anthrax, rabies has probably never caused comparably high numbers of deaths in humans and animals. However, the horrendous manner in which rabies manifests itself in its victims continues to attract the attention of scientists, health and veterinary workers.

The true scale of rabies in South Africa remains clouded by the many thousands of people protected by post-exposure treatment each year after rabies exposure and the undiagnosed human and animal rabies cases not reflected in official statistics. Animal rabies is endemic throughout South Africa and the disease is currently responsible for the laboratory confirmed deaths of between 10 and 30 people each year. Tragically, with very few exceptions, those who succumbed to the disease over the past decade did not receive the correct post-exposure treatment and died following bites by rabid dogs.

The WHO estimates the worldwide number of deaths due to rabies to be between 35 000 and 50 000 per year.

## **Rabies attacks the brain**

The rabies virus gains entry into a new host by introduction of virus-containing saliva into a bite wound. Entry may also be gained by saliva contamination of the mucous membranes of the mouth, eyes and nasal passages. The virus does not penetrate intact skin. At the site of entry, there may be local viral proliferation in non-neural tissue followed by viral attachment to nerve cell receptors and entry into peripheral nerve endings.

The virus is transported along afferent axons, eventually reaching the central nervous system where proliferation is followed by widespread distribution of the virus throughout the brain and

spinal cord. Following centrifugal transport along the cranial nerves, the salivary glands become infected and virus particles are shed in the saliva. Infection of the brain commonly leads to behavioural changes that induce the host to bite other animals, thereby transmitting the virus.

The clinical picture can be highly variable between different species, individuals of the same species, and even within the course of the disease in a particular individual. The widespread central nervous system infection almost inevitably leads to death, usually through respiratory paralysis, but also through

secondary circulatory, metabolic or infectious processes. Shedding of virus in saliva usually occurs simultaneously with, or soon after, the appearance of clinical signs. However, the virus may be shed before the appearance of clinical signs. Once the virus is affecting the central nervous system and its function, the clinical course is acute and progressive with death usually within ten days in animals and five days or less of the onset of rabies symptoms in humans. Rabies infection is fatal in all species.

## **Symptoms can be subtle**

Because rabies affects the central nervous system, it is nearly always associated with behavioural changes that may manifest in many different ways. Classically, rabies has been described as having an initial subtle phase followed by

either an excitive furious form, or a paralytic dumb form. The veterinarian is, however, rarely afforded the opportunity to observe an animal throughout the clinical course of disease and diagnosis is often made after minimal observation, especially in endemic areas where rabies awareness is heightened. Some of the signs, such as a change in disposition or personality, may only be noticed after close observation by owners or people closely associated with the particular animal.

## **Symptoms in Dogs**

Change in temperament, attacking and biting anything (often injuring mouth and breaking teeth), exaggerated responses to sound and light, restlessness, nervousness, snapping at imaginary flying insects, disorientation, wandering aimlessly, a fixed stare,

Of considerable concern is the re-emerging status of rabies in Africa.

This trend has been attributed to rapid population growth with parallel dog population growth, mobility of human populations, particularly political refugees, high rates of urbanisation and a disintegration of veterinary rabies control. The latter is of particular importance as dog rabies vaccination is a more cost-effective measure for preventing human rabies than reliance on post-exposure prevention for dog-bite victims.

drooling saliva, hoarse howling, choking sounds, “bone in throat” syndrome, a febrile reaction, uncoordinated actions and progressive paralysis, dilated pupils, irritability, photophobia, infliction of self-injury, convulsions and muscle spasms.

**Symptoms in Wild Animals**

Wild animals often lose fear of humans and may even enter houses. Yellow mongooses generally demonstrate tame behaviour, but some are very aggressive. Jackal are usually aggressive, and lose fear of humans. Wild cats display similar behaviour to domestic cats. Badgers are usually vicious and fierce. Kudu salivate profusely, may be paralysed, docile, tame, even entering houses. Duiker are sometimes very aggressive. The appearance of ‘tameless’ of wild animals is particularly dangerous to kids, who think the animal is tame and tries to play with it. Rabid animals may also not run away from bird dogs which thus run a high risk of being bitten.

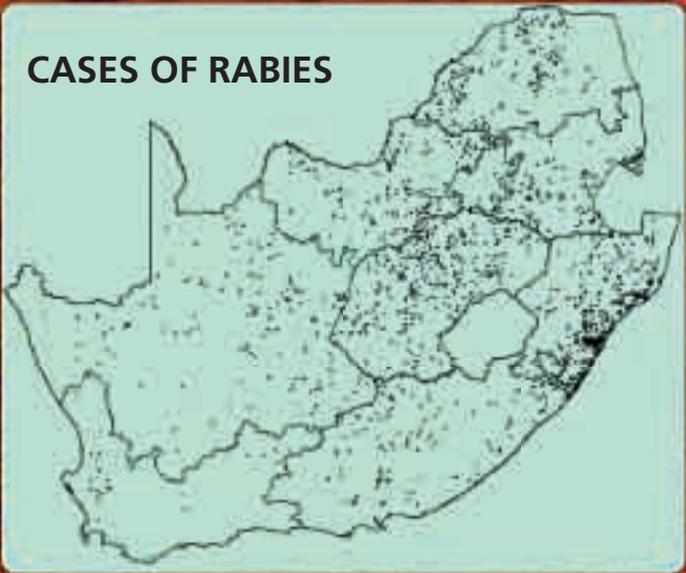
Animals displaying signs of neurological disease, as well as all stray and wild animals suspected of exposing humans to rabies infection, should be euthanised for laboratory confirmation

**People responsible for collecting specimens must be vaccinated against rabies. Do not damage the brain! Call the nearest state veterinarian or district surgeon.**

**Management of the wound**

To reduce the risk of rabies, it is important that the bite wound is thoroughly cleaned as soon as possible. The bite wound should be copiously flushed immediately for 5 to 10 minutes with water, preferably 5% or 10% salt water, while irrigation of deep puncture wounds, for example following a feline bite, should be performed using a syringe. If antiseptic is available, for example a 1 in 20 dilution of 5% chlorhexidine in water, then this may be added to the water. Bleeding should be encouraged and wound suturing should preferably be avoided or delayed. Applying an iodine-based disinfectant or 70% alcohol or RT-14 (supplied to members with the avian flu kit) to the wound after flushing is also indicated, as these chemicals inactivate rabies virus.

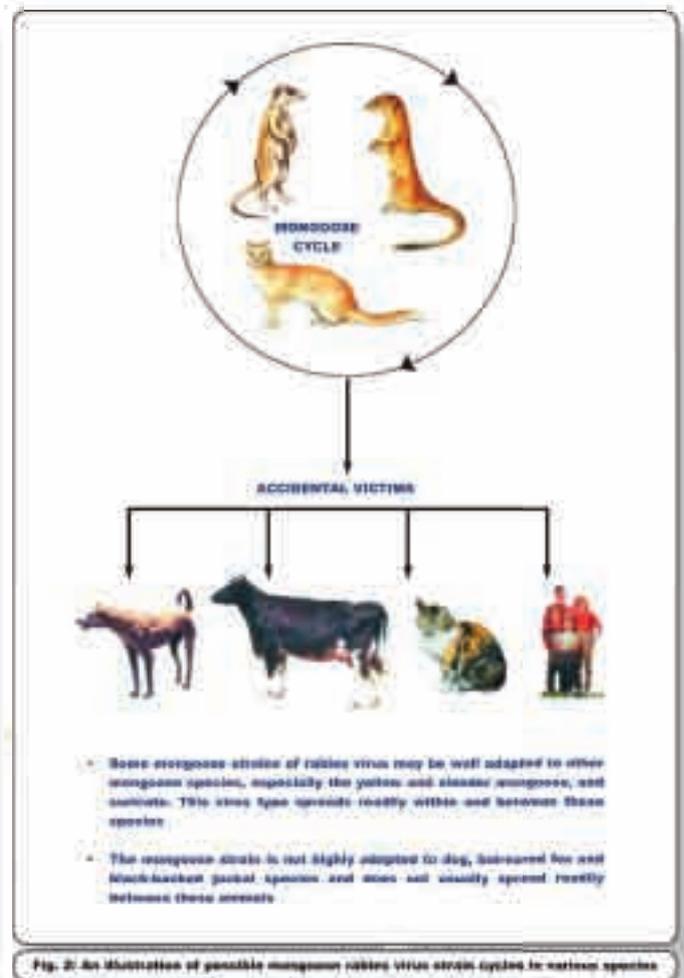
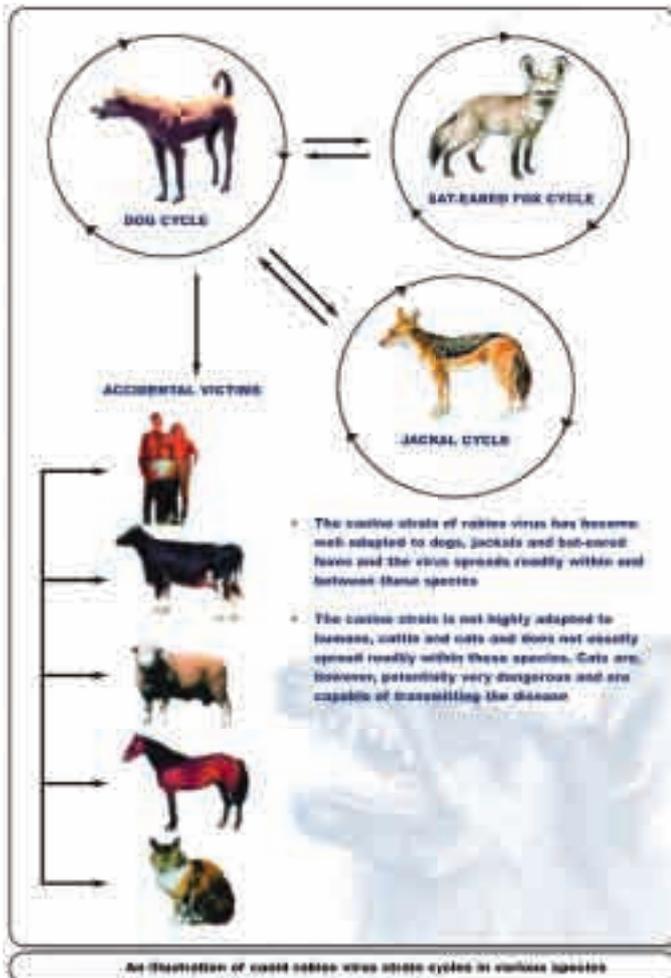
*There is a clear imperative for children to be formally educated on rabies transmission, the disease and prevention, particularly as education interventions have been shown to reduce the number of dog bites in children*



Geographical locations of animal rabies cases diagnosed over the five year period, 1998 to 2002



Wild mammal species associated with rabies in South Africa



## Rabies and The Law

The Animal Diseases Act (Act No. 35 of 1984) provides for the control of specific animal diseases and for measures to promote animal health. The Minister of Agriculture may make regulations for accomplishing the purposes of the Act and has determined that rabies control measures should be applied throughout the country. The decision was based on the geographical distribution of animal rabies cases diagnosed over a five year period from 1995 to 1999.

The Animal Disease Regulations identify rabies as a controlled animal disease. All suspected outbreaks of rabies **must be reported to the responsible state veterinarian** or animal health technician for investigation. This may include euthanasia of the suspected animal after which brain samples are submitted to confirm the diagnosis. If symptoms are not suspicious, the animal may be kept in quarantine under observation for a period determined by the state veterinarian.

## Interprovincial movement restrictions

- South Africa in its entirety is considered a rabies endemic area and has been proclaimed as such.
- All interprovincial movements of dogs and cats must be accompanied by a valid rabies vaccination certificate AGR 05/076.
- Puppies and kittens less than three months of age may safely be vaccinated at weaning and can then be moved immediately to any destination in the country provided that they are revaccinated at three months of age.
- The rabies vaccination certificate of an appropriately vaccinated dog or cat is valid for three years in South Africa.
- The three-yearly vaccination certificate AGR 05/076 which filled in and stamped by the veterinarian is at the same time the transport permit.

*To reduce the risk of rabies, it is important that thorough cleaning of the bite wound is initiated as soon as possible*

*All persons judged to be at high risk for rabies exposure should be vaccinated, with treatment being initiated as soon as possible even if there has been a delay in presentation to the health service*

### **Vaccination is compulsory**

Vaccination is a cost-effective method of protecting companion animals against rabies. Safe and efficacious vaccines that induce a protective immunological response within two weeks of vaccination are readily available from your veterinarian. Vaccination adverse events are extremely rare and if they occur, generally mild.

All dogs and cats in South Africa must be vaccinated strictly according to the regulations, which read as follows:

**'All dogs and cats in the Republic shall be immunised with an efficient remedy by an officer, veterinarian or authorised person at the age of three months followed by a second vaccination within 12 months, at least 30 days after the first vaccination and thereafter every three years. Dogs and cats younger than three months may be vaccinated provided that they are again vaccinated at the age of three months, followed by a third vaccination within 12 months and thereafter every three years.'**

The administration of vaccine before three months of age is justified by the incidence of rabies in puppies in South Africa. Dogs of all ages, even those less than three months of age, should be included in rabies mass vaccination campaigns. All dogs and cats regardless of their age, weight or pregnancy may safely be vaccinated. **Rabies vaccines may be safely administered on their own or together with canine distemper, adenovirus type 2, parainfluenza, leptospirosis and parvovirus vaccines.**

### **What if my Dog is Exposed?**

**If your dog was in contact (say at a field trial or on a hunt) with a dog which developed rabies, and if it is not vaccinated against rabies, it must by law be destroyed.**

Vaccinated dogs, with antibody titres equal to or greater than 0,5 IU/ml, must be revaccinated (booster) as soon as possible after exposure (preferably within 1–2 days) and boosted three days later. The owner must be informed that there is an element of risk and if the animal shows any signs of abnormal behaviour or illness, this must immediately be reported to the state veterinarian. The animal must be confined to an adequately secure facility for

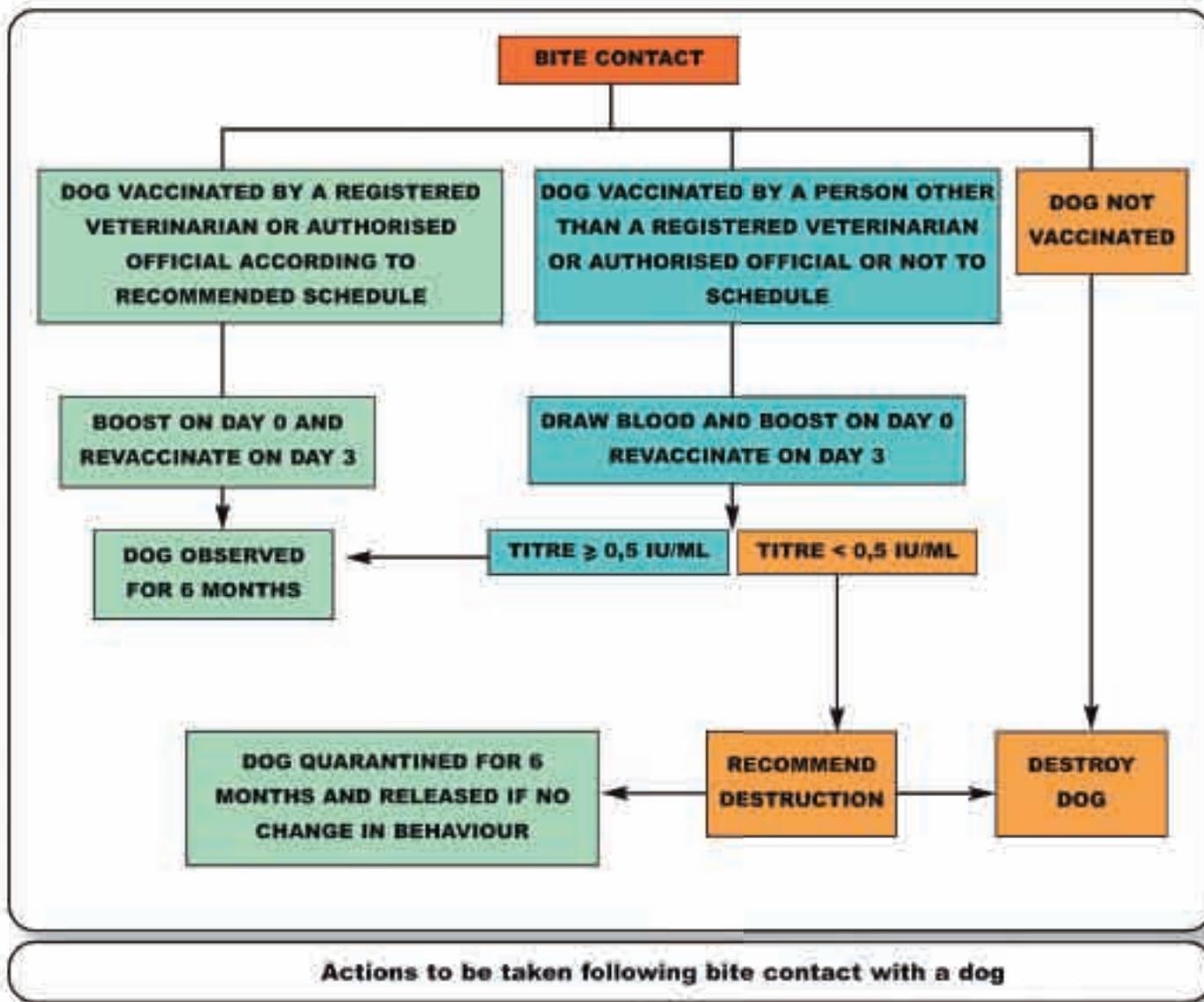
six months and kept under close observation. A permit must be obtained from the state veterinarian to move the animal from the property.

Vaccinated dogs with antibody titres of less than 0,5 IU/ml, must be isolated and destroyed under the supervision of a veterinary officer or authorised person. Should the owner request that the dog not be euthanised, and the state veterinarian is of the opinion that the dog can be effectively isolated (quarantined), he/she can authorise such isolation at a specific place in officially approved facilities under specified conditions stipulated by him/her. This course of action should only be considered under the most exceptional circumstances and the owner must be warned in writing that there is a considerable degree of risk involved and that they will be legally liable for any resultant exposure.

The animal must be effectively isolated for a six-month quarantine period. An official quarantine notice must be served by the state veterinarian on the responsible person and the conditions of quarantine conveyed in writing on an official quarantine notice. Lifting of quarantine must also be carried out in writing. During this period the animal must be under daily observation by the owner. The animal may not be released without the written approval of the state veterinarian.

*If your dog was in contact (e.g. at a field trial or on a hunt) with a dog which developed rabies, and if it is not vaccinated against rabies, it must by law be destroyed*





**EXPERT ADVICE ON RABIES:**

Allerton Provincial Veterinary Laboratory  
Tel: (033) 347 6200

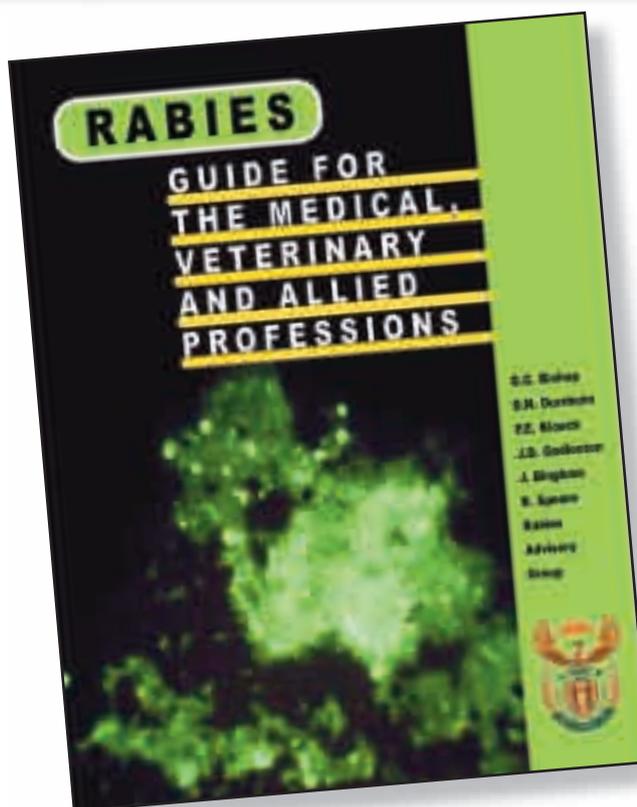
Onderstepoort Veterinary Institute, Rabies Unit  
Tel: (012) 529 9440

Rabies Advisory Group  
Animals: (013) 741 3218  
Humans: (033) 386 3859 and 082 352 6879

National Institute of Communicable Diseases  
Tel: (011) 321 4200

Department of Agriculture, Directorate Veterinary Services  
Tel: (012) 319 7679

Download the complete rabies brochure from  
[www.wingshooters.co.za/dogs.php](http://www.wingshooters.co.za/dogs.php)





a world-class solution to a worldwide threat



- Three-year duration of immunity for dogs, cats and sheep
- One-year duration of immunity for horses, cattle and ferrets

To find out more about **Rabisin™** and creating and maintaining a rabies-free zone, please contact your local Merial office.

Merial

29, avenue Tony Gamier, Lyon, 69007, France



**Summary Of Product Characteristics**

**1. Name Of Medicinal Product:** Rabisin. **2. Qualitative And Quantitative Contents:** Each 1 ml of Vaccine Contains Rabies Virus Suspensions of 7 IU, Manufacture (As Hydroxide) 1.7 IU, Trivalent, At Most 0.3 Mg, Excipients: Q1, 1-Mg. **3. Pharmaceutical Form:** Injectable Suspension. **4. Immunological Properties:** Inactivated Vaccine. **5. Indications:** Active Immunization Against Rabies (CV) Animal Species. **6. Contraindications:** Do Not Inject The Vaccine Subcutaneously In Horses. **7. Undesirable Effects (Frequency And Severity):** In With Any Vaccine: A Hypersensitivity Reaction May Occur. These Are Rare And Aggravated Symptoms/Reactions Should Be Reported To The Professor Of Maximum. **8. Special Precautions For Use:** Vaccinate Only Healthy Animals, Correctly Weighted At Least 30 Days Prior To Vaccination. **9. Pregnancy/ Lactation:** No Adverse Effects Have Been Recorded In Female

Animals During Pregnancy. **10. Interactions:** Unknown. **11. Feeding, Method Of Administration:** Inject (Not 1 ml Dose Subcutaneously Or Intramuscularly According To The Following Schedule:

Species	Minimum age of vaccination		Boosters
	Born of non-vaccinated dams	Born of vaccinated dams	
Carnivores	4 weeks	11 weeks	Every 1, 2 or 3 years, complying with the legislation in force at the country
Herbivores	4 months	9 months	

**12. Dosage (Symptoms, Emergency, Antidotes):** No Undesirable Effects Have Been Observed After The Administration Of Several Doses Of Vaccine. **13. Special Warning To Each Target Species:** None. **14. Withdrawal Periods:** Not Applicable. **15. Special Precautions For Administration:** None.

**16. Pharmaceutical Particulars & 17. Incompatibilities:** Unknown. **18. Shelf Life:** 36 Months. **19. Special Precautions For Storage:** Store Between +2°C And +8°C, Protected From Light, Do Not Freeze. **20. Nature And Contents Of Container:** 1 ml (Glass) Bottle, Box Of 10 Bottles, 3 ml (Glass) Bottle, Box Of 10 Bottles, 10 ml (Glass) Bottle, Box Of 10 Bottles. **21. Marketing Authorization Holder:** Merial, 29, Av. T. Gamier, 69007 Lyon, France. **22. Special Precautions For Disposal Of Unused Product And Waste:** The Vaccine Being Inactivated, No Special Precautions Must Be Taken (Usual Precaution). Any Unused Product Or Waste Materials Derived From Such Products, Should Be Disposed Of In Accordance With The Local Requirements.

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