

## **Comparative delayed-type hypersensitivity (dth) activity of two vaccines against canine leishmaniasis: Canileish® (liesp/qa-21) and letifend® (protein q recombinant vaccine) in mice**

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**Statement of the problem:** The Canine Leishmaniasis vaccine CaniLeish® (Virbac, France) composed of purified *L. infantum* Excreted Secreted Proteins (ESP) was marketed in 2011 in Europe. Six years later came a second vaccine based on a recombinant Q Protein (LetiFend®) (Leti, Spain). The protective immune response to *Leishmania* is cell-mediated. While solid data have been published on the Th1 cell-mediated immune (CMI) response elicited by CaniLeish® [Ref.1-5], no data is available yet regarding the cellular immunity induced by LetiFend®. The purpose of this study was to control and compare the elicitation of a memory CMI response by the two vaccines using a Leishmanin Skin Test (LST) in mice.

**Methodology & Theoretical Orientation:** Two groups of five SPF (OF1 strain) mice were injected subcutaneously twice at 7 day-interval (D0; D7) with 2x50µl of CaniLeish® (group1) or LetiFend® (group2). On D14, all the mice received a foot-pad intradermal inoculation of leishmanin (right tested foot) and an injection of NaCl0.9% (left control foot). The DTH (Delayed-Type Hypersensitivity) reaction was assessed on D14 and D15, before and 24 hours after leishmanin/NaCl injections, through the measurement of the foot-pad volume (mL.10<sup>-2</sup>). The test was considered as positive when the volume variation was superior or equal to 3mL.10<sup>-2</sup>. **Findings:** In group1, 4/5 mice were DTH positive, and one was close to positivity while in group2, none (0/5) was positive (Table1). The LST consists in the intradermal inoculation of leishmanies, and the measurement of the corresponding intradermoreaction (assessed here by the increase of pad volume due to inflammation), consequence of the DTH response caused by the specific recognition of the parasite antigens. This test is a physiological approach to assess the development of *Leishmania*-specific (Th1) CMI response. **Conclusion:** In this experimental study, CaniLeish® induced a positive DTH reaction in mice, while LetiFend® did not



Biography

Karine De Mari, D.V.M., is Medical Manager/Medical Direction for Small Animals at Virbac (France). As a Medical Manager, she is involved in Phase IV trials and collaborations with Universities and Specialists internationally. She developed her expertise in Virbac thanks to different positions in R&D, Product Innovation and Strategic Marketing. Before she joined Virbac, she was a veterinary practitioner for Small Animals. She graduated from the Veterinary School of Alfort, and is certified from the CESAM (biomedical statistics).

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