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**PHARMACOKINETICS OF MOXIDECTIN IN THE SOUTHERN HAIRY-NOSED WOMBAT
(*LASIORHINUS LATIFRONS*)**

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Sarcoptic mange, caused by *Sarcoptes scabiei* var. *wombati*, could be a significant threat to populations of southern hairy-nosed wombats (*Lasiorhinus latifrons*, SHNW) in Australia. Treatment is currently based on the off-label use of various parasitocidal drugs, with limited clinical efficacy trials. Our primary aim was to determine the pharmacokinetic parameters of a macrocyclic lactone, moxidectin, to assist in the development of effective treatment protocols. Pharmacokinetic parameters were determined in four female SHNW following a single subcutaneous injection of 0.2 mg/kg moxidectin. Blood samples were collected for 38 days following injection (August–September 2008), for analysis using liquid chromatography and tandem mass spectrometry. The mean peak plasma concentration occurred at 13.6 hr, with a mean peak plasma level of 98.6 ng/ml. The mean elimination half-life was 5.03 days, resulting in a mean area under the curve of 377 ng.day/ml. The peak plasma moxidectin concentration was higher than that seen in livestock species but the plasma elimination half-life was shorter. This study suggests that a single injection of 0.2 mg/kg moxidectin may not be sufficient to clear a mange infection in this species.

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Fig 4. Summer diets of southern hairy nosed wombats in the Murraylands reconstructed from ndhJ sequences. Panel A shows population-wide diets reconstructed using ndhJ sequences from all samples in Moorunde, Koolooloa and Portee sites. Panel B shows diets of individual samples collected in each of the three sites. 4. Woinarski JCZ, Burbidge AA. 2016 *Lasiorhinus latifrons*. In IUCN (International Union for the Conservation of Nature), 2016. The IUCN Red list of Threatened Species, Version 2016: Available from: www.iucnredlist.org (accessed May 2019). (0.2305/IUCN.UK.2016-1.RLTS.T40555A21959203.en). 5. Taggart DA, Robinson T. 2008 *Lasiorhinus latifrons*. Pharmacokinetics of moxidectin in the southern hairy-nosed wombat (*Lasiorhinus latifrons*). CE Death, DA Taggart, DB Williams, R Milne, DJ Schultz, C Holyoake, *Journal of wildlife diseases* 47 (3), 643-649, 2011. Interspecific variation in the diets of herbivores in an industrial environment: implications for exposure to fluoride emissions. NE Davis, CE Death, G Coulson, L Newby, J Hufschmid. *Environmental Science and Pollution Research* 23 (10), 10165-10176, 2016. Source: Wikipedia. The southern hairy-nosed wombat (*Lasiorhinus latifrons*) is one of three extant species of wombats. It is found in scattered areas of semiarid scrub and mallee from the eastern Nullarbor Plain to the New South Wales border area. It is the smallest of all three wombat species. The young often do not survive dry seasons. It is the state animal of South Australia. More Info. Trending. Loading About Interactions. Most organisms interact with other organisms in some way or another, and how they do so usually defines how they fit into an ecosystem. These interactions come to