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First characterization of the goat mammary gland proteome secretory tissue using shotgun proteomics

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Introduction

The animal industry is gaining importance in developing countries, with a special emphasis on goats. These animals are considered to be resilient to several adversities common in these countries, such as poor feed availability during the dry season. For this reason they are considered an interesting alternative for the supply of dairy products for human consumption. In addition, dairy production is considered to be an essential tool to overcome social and economic issues in developing countries (McDermott *et al.*, 2010). It is therefore crucial to understand goat mammary gland physiological and anatomical functions. Specifically, characterization of the mammary gland proteome helps to understand differences between animals under several conditions, e.g. under different nutrition levels or different milking frequencies. At a structural level, this organ suffers modifications along lactation and also according to different milking frequencies and lactation number (Lérias *et al.*, 2014). However, to our knowledge there are no descriptions of differences at the proteome level, enhancing the importance of such results.

Material and methods

Sample collection

Mammary gland samples were obtained from a study conducted at the experimental farm of the Faculty of Veterinary Medicine of the ULPGC – University of Las Palmas de Gran Canaria (Gran Canaria, Spain) as previously described by Lérias *et al.* (2013). At the end of the trial, mammary