

## **Early ontogeny of mucosal immunity of California sea lions (*Zalophus californianus*)**

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My PhD project aims to characterize and quantify mucosal immune proteins of California sea lions during their early development. I have Trizol-extracted proteins from samples collected from neonate, two-, five- and twelve-month old pups sampled at Granito rookery, in the midriff region of the Gulf of California. With 10% SDS-PAGE electrophoresis and Phoretix 1D Pro, I determined the protein profile of each mucosa. The greatest number of proteins, both in terms of band number and diversity, is in the female genital mucosa, and in the oral mucosa the number of protein bands increased with age. However, even when the number of bands remained constant, the diversity of proteins was characteristic of each age. Age explained 30 to 50 % of the protein profile in the mucosal cavities. The proteins of genital and anal mucosa were correlated in 8 % with the body mass index of the pups. . The next step of this aim is use sequencing techniques to determine what kind of proteins we have in each mucosa. With the funds awarded by SMM, I purchased antibodies and ELISA reagents for immune component detection. I have tried antibodies against immune receptors such as, CD11-R1, CD72, CD45, T- $\gamma\delta$ , T-CD3, T-CD8 $\alpha\alpha$ , and anti-IgG, IgM and IgA, pig and dog antibodies in mucosal samples using immunocytochemistry. In order to determine the suitability of anti-antibodies for ELISA based techniques, I am currently standardizing the antibody titration in mucosal soluble proteins, and results are promising and should be completed in the next few months.