

**ABSTRACTS: 34TH ANNUAL MEETING OF THE BRAZILIAN EMBRYO TECHNOLOGY SOCIETY (SBTE)**

Support biotechnologies: Cryopreservation and cryobiology, diagnosis through imaging, molecular biology, and "omics"

**Canine chorionic girdle as biomaterial for bioengineering: proteomic analysis**

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Currently, the high need and scarcity for tissues for transplantation leads to the emergence of new technologies in regenerative medicine. Thus, the decellularized placental extracellular matrix (ECM) has emerged as a new tool to produce biomaterials. Previously, we established a viable canine placenta biomaterial for cell culture; however, its protein content has not yet been described.

For this, non-decellularized (n=3) and SDS-decellularized (n=3) 35-day old fetal part of canine placenta sample were washed, lysed, urea reduced, acetone precipitated, DTT reduced, iodoacetamide alkylated, trypsin digested, and C-18 column purified (DOI: 10.1002/9780470559277.ch140272). Finally, 3 µg protein were loaded in OrbitrapFusionLumos spectrometer (Thermo Scientific). Spectra were exported to MaxQuant software (v1.6.10.43) to produce the protein list of each sample, and the LFQ intensity were statistically ( $p > 0.05$ ) analyzed by Inferno software (v.1.1.6970). After this, proteins related to ECM and cellular junction were filtered and manually annotated using DAVID Bioinformatics Resources 6.8. From 1.306 identified protein sequences by MaxQuant software, 91 (6.9%) were filtered by selected ontologies, and 66 (75.2%) unique proteins were enriched. From this, 33 (50%) proteins were overexpressed in non-decellularized, whereas 18 (27.3%) were overexpressed in canine placenta biomaterial. At the end, 15 (22.7%) proteins were equally expressed in both samples. Indeed, 8 (12.1%) proteins were only expressed in non-decellularized, whereas 6 (9.1%) were only expressed in biomaterial, and 52 (78.8%) proteins were commonly expressed in both. The enrichment of the 6 proteins in the biomaterial sample, may be due protein with low expression that could not be detected in the non-decellularized sample. In conclusion, mostly the proteins related to ECM, such as collagens, and other fibrous and adhesive proteins, and cellular junction ontologies were maintained after decellularization, suggesting canine placenta as a source of biomaterial with rich and functional environment. Support: FAPESP (2014/50844-3 and 2015/14535-9) and CNPq (467476/2014-4). \*This abstract only counts the descriptive analysis of protein group. Differential protein analysis is in progress by the group.