DISCUSSION AND RESULTS
Results: The gene expression, median; min;max 2-ΔΔCt values, of iNOS was higher with PBM therapy, Control 0.8749 (0.8154; 0.9362), Sham 0.8836 (0.8311; 0.9363), PBM 1.095 (0.9476; 1.184) with significant differences between PBMxSham p=0.0022. No statistical differences were observed with PBM in C3 gene expression, Control 0.8770 (0.8220; 0.8960), Sham 0.8815 (0.8720; 0.9630), PBM 0.9329 (0.9184; 1.060).
CONCLUSION
Conclusion: Photobiomodulation up regulated iNOS gene expression, which refers to secondary mitochondrial stimulation that can promote an increase of antioxidant enzyme balance, while C3 levels remained constant and it is suggested that there is no activation of the complement system in the period studied.
Keywords: Arthritis rheumatoid, Low-level laser therapy, Gene expression
Supported by: Propesq-FHO

08989 - Poster Session

NB.13 - A simple and quick method to generate in vitro tridimensional tumor bodies from a human breast adenocarcinoma (MCF7) using magnetic aggregation technique
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INTRODUCTION
Tumor physiology studies have to rely on efficient and representative models, as animal-based or in vitro tridimensional cell constructs. The work used magnetite (Fe3O4) nanoparticles produced by electron-beam induced chemical reduction to give cells the ability to form aggregates when submitted to a magnetic field, and thus to produce micro tumors in vitro.
OBJECTIVES
The work aimed to produce human breast adenocarcinoma mini tumors (BAMT's) in vitro.
MATERIALS AND METHODS
Paramagnetic iron oxide nanoparticles (PION's) were synthesized through electron-beam induced Fe3+ reduction and subsequent coprecipitation. Due to its poly-L-lysine coating, PION's were adsorbed on cell membranes of MCF7 (human breast adenocarcinoma). Cells were seeded in 24-well cell culture plates pre-treated overnight with Pluronic® F-127 to prevent cell adhesion and kept in culture conditions under magnetic fields for at least 6 days. BAMT's were differentially stained with Hoescht 33342 and ethidium bromide and imaged by wide-field fluorescence microscopy.
DISCUSSION AND RESULTS
BAMT's appeared as integer and well-defined cellular aggregates, with sparse dead cells stained by ethidium bromide. These structures can be further used for in vitro tumor studies, as BAMT's are supposed to be more reliable models than monolayer cultures. Treatment of wells with poloxamer caused a mild to moderated cell-repellent effect, similar to those found in commercially available products, only by a fraction of the cost.
CONCLUSION
The experiments succesfully produced mini tumors prone to be used in in vitro studies.
Keywords: breast cancer, 3d culture, magnetic
Supported by: FAPESP (2017/50332-0) & IPEN/CNEN-SP

08291 - Poster Session

NB.14 - Development of a Female Mouse Computational Model Based on CT Images for Dosimetric Assays
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INTRODUCTION
Small animals, such as mice, are used in biodistribution studies and innumerous preclinical investigations involving ionizing radiation. Longitudinal preclinical studies with five or more image procedures (MicroCT and/or PET/SPECT) are not uncommon. However, the cumulated absorbed doses in mice organs and their influence in experimental results is often neglected. Accurate calculation of absorbed doses in mice organs are needed to evaluate potential radiobiological effects that may interfere with in vivo experiments. Based on a previous study of a male mouse computational model known as DM_BRA, this paper is focused on the development of FM_BRA, a female mouse computational model.
OBJECTIVES
Develop and implement for the MCNP code a female computational mouse model for mice radiopharmaceutical dosimetry.
MATERIALS AND METHODS
A set of Micro-CT images of a female mouse kindly available at (https://www.youtube.com/watch?v=-Xg921NVFSs) was selected for the segmentation process. Forty-seven coronal slices were manually segmented using AdobePhotoshop®. In these images each color corresponds to a numerical code that identifies each organ. After the segmentation process, the images were converted into a ".raw" 3D file format. An in house C++ program was used to convert the 3D image into the computational model in the MCNP format.
DISCUSSION AND RESULTS
The new FM_BRA was segmented with 20 tissues/organs. The model matrix has (156 x 366 x 105) voxels and the voxels dimensions are (0.25 x 0.25 x 0.25) mm3. Elemental composition and density of human organs were used in MCNP setup of the model. The total mass of the model is 26.3 g. The masses of segmented organs were compatible with the values found in the literature.
CONCLUSION
A new female mice model was successfully developed and implemented for MCNP. A set of S-values for dosimetry of positron emitting radioisotopes will be available soon.
Keywords: female mouse model, mice dosimetry, Monte Carlo
Supported by: CNPq

05065 -

NB.15 - Radiochemical and biological properties of peptides designed to interact with EGF receptor: Relevance for glioblastoma
Danielle Vieira Sobral[1], Leonardo Lima Fuscaldi[1], Fernanda Ferreira Mendonça[1], Ana Cláudia Camargo Miranda[2], Jorge Mejia[2], Marycel Barboza[2], Luciana Malavolta[1]
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INTRODUCTION
Radiolabeled peptides with high specificity for receptors expressed on tumor cells hold great promise as diagnostic and therapeutic biomarkers.