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**XVII MEETING OF THE URUGUAYAN SOCIETY OF
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**"NANOBIOTECHNOLOGY: SMALL SOLUTIONS FOR
BIG PROBLEMS"**

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was higher when fibroblasts were present ($p < 0.05$). Finally, we decided to subjected spheroids to photodynamic therapy (PDT). As a result, cellular migration was delayed even for 72 h ($p < 0.05$). Notably, viability was reduced around 10 % in heterotypic spheroids compared to 25 % ($p < 0.0001$) in homotypic ones. In conclusion, 3D platform is a suitable method to evaluate the influence of CAF in melanoma where GLI influenced malignant behavior. Furthermore, PDT on 3D system was able to delay melanoma migration. These findings enrich our view on phototherapy to accomplish best outcomes.

ANIMAL AND PLANT BIOLOGY AND BIOTECHNOLOGY II

A66

BEHAVIOR OF DIFFERENT CELL LINES IN CONTACT WITH SURFACES BASED ON POLY- N-ISOPROPYLACRYLAMIDE

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In the field of tissue engineering, great advances have been generated in order to create biomaterials that function as scaffolds for cell growth. Several hydrogels simulate the mechanical properties of extracellular matrix (ECM), due to its innate similarity in structure and composition, providing a platform that mimic the native cellular milieu and allow a correct growth of several cells. Hydrogel based on N-isopropylacrylamide (PNIPAM) is one of the most studied materials in biomedical field; however more extensive biocompatibility and cellular interactions studies with different cell lines are needed to corroborate its biocompatibility. Therefore, the aim of this study is evaluate the biocompatibility of PNIPAM through cytotoxicity, genotoxicity, proliferation and cell adhesion tests in murine pre-adipose cells (3T3-L1), human embryonic kidney cells (HEK293) and human carcinoma-derived cells (A549). MTT and neutral red uptake assays shown noncytotoxic effect of PNIPAM in any of the studied cell lines. Genotoxicity was evaluated by Comet Assay, where DNA damages were not detected. [³H]-thymidine staining allowed corroborating that cell cycle had progressed normally, allowing a correct proliferation. Adopted morphologies for each cell line over PNIPAM indicate that the surfaces favor the cell attachment during five days culture. The good biocompatibility of PNIPAM surface makes it a potential 2D scaffold for a possible adipose and kidney tissue-engineered construct.

A67

PACU VISCERA EXTRACT OBTAINED BY AQUEOUS TWO-PHASE SYSTEM. POTENTIAL APPLICATION IN RECYCLING WASTE

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Pacú (*Piaractus mesopotamicus*) production represents 40% of northeast fish yield. It is of interest to valorize the current disposal of fish processing through the use of viscera waste, source of enzymes such as trypsin. Aqueous two-phase systems (ATPS) have been successfully used for separation and purification of macromolecules because exhibit multiple advantages: good resolution, high yield, low cost and proteins retain their biological activity. The goal of this work was to analyze the partition of pacú pyloric caeca extract in aqueous two-phase PEG-citrate systems. Preparation of crude alkaline extract was made by mechanical and sonic digestion of pyloric caeca. A two-phase system formed by polyethyleneglycol (PEG) 3350 - citrate, pH 8.4, was used and the partition of alkaline proteins of the extract was assayed. Trypsin activity was determined with the substrate α -Nbenzoyl-DL-arginine-p-nitroanilide (BAPNA) and protein content was estimated by the Warburg and Christian method. Partition coefficients (K_p) were calculated by the ratio of enzyme trypsin activity or total protein between phases. The experiments revealed that partition coefficient of trypsin was greater than unity ($K_{p_{\text{Trp}}}$: 2.2), while partition coefficient of total proteins was smaller than one ($K_{p_{\text{TP}}}$: 0.33). This result indicates a tendency for trypsin-like enzymes to concentrate in the top phase (PEG-enriched phase), while proteins were partitioned to the salt-enriched phase (bottom phase). Thus, a high separating capability was verified in the assayed system. On the other hand, X ray plates were treated with the top phase achieving a complete removed of the gelatine layer which covers it, with no interference of PEG. These studies demonstrate the applicability of a simple procedure to obtain a phase enriched with enzymes from pacú viscera extracts and their use in recycling of radiographic plates.