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A31
IDENTIFICATION OF POTENTIAL PROTEINS INVOLVED IN ANGIOGENESIS ASSOCIATED WITH CERVICAL CANCER USING PROTEOMICS AND BIOINFORMATICS APPROACHES

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Angiogenesis is the growth of blood vessels from the existing vasculature and is essential in the progression of cervical cancer (CC), the fourth most common tumor in women worldwide. This process studies in search of potential biomarkers and therapeutic targets since the endothelial cells that form the abnormal tumor vasculature are characterized by changes at the protein level when are regulated by tumor and microenvironmental factors. The objective of this work was to identify potential proteins involved in the response of endothelial cells to soluble factors released by tumor cells derived from CC, using proteomics and bioinformatics approaches. We previously observed that treatment with conditioned media from CC HeLa cells (TCMs) for 24 h increases the number of endothelial HMEC-1 cells. In this work, the proteome response of HMEC-1 cells was studied under these experimental conditions, performing a Label-Free quantitative (LFQ) mass spectrometry (MS) at the CEQUIBIEM Proteomics Center. Proteins were identified and quantified with the Proteome Discoverer software and the Uniprot database. Also, a more in-depth statistical study was performed using the Perseus software. Proteomic analysis revealed 26 proteins with increased expression levels in endothelial cells treated with TCM ($P \leq 0.05$). Then, to evaluate the biological characteristics of these proteins, they were classified using the PANTHER analysis tool, according to their molecular function and biological processes. As a result of this study, catalytic activity was the most represented molecular function (11/26), followed by binding (4/26). Respect to biological processes, proteins were mainly classified into cellular processes (12/26) and energy metabolism (11/26). This analysis suggests that factors released by tumor cells mainly increase the expression of proteins involved in metabolic processes in endothelial cells. Within these proteins, the probable ATP-dependent RNA helicase DDX47 showed the greatest magnitude of change (> 2). DDX47 is related to rRNA processing and ribosome biogenesis, which are processes associated with cell proliferation and cancer progression. Furthermore, ribosomal activity is also a critical regulator of metabolism. These results highlight the use of Label-Free spectrometry and bioinformatics approaches in an initial phase of discovery of potential proteins involved in cancer and suggest the potential role of DDX47 in angiogenesis associated with CC.

A32
THE NATURAL FLAVONOID APIGENIN IS ACTIVE AGAINST *Trypanosoma cruzi* EPIMASTIGOTES

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Trypanosoma cruzi is the causal etiologic agent of Chagas disease. In cultures, this parasite is mainly found in the epimastigote form and a low percentage in the infective form trypomastigote. The current chemotherapy against *T. cruzi* is insufficient because the available drugs, Nifurtimox and Benznidazole, have limited activity, and show toxic side effects in patients. Therefore, the "screening" of purified molecules from natural sources, mainly plant leaves has become an important tool for the fight against Chagas disease. Many natural compounds, extracted from native plants of Argentina, have been shown to be effective against the parasite. Among them, flavonoids are an important family of molecules that have been widely studied. In this work we analyze the effect of the natural flavonoid Apigenin (AGN) isolated from *Larrea divaricata*, on the growth of *T. cruzi* epimastigotes (strain *Dm28c*). AGN showed an antiproliferative effect on epimastigotes, even at low concentrations. This effect was irreversible even in the short term of exposure to the compound. AGN does not significantly affect the mitochondrial activity of the parasites, at all the concentrations tested (1, 5, and 10 µg/mL) but alteration in ROS levels were observed when 5 and 10 µg/mL of AGN were used. When we analyzed the ultrastructure of the parasites, we observed an increase in cytoplasmic vacuolization and the presence of structures that appear to be like "membrane blisters". From these results it is necessary to identify the molecular targets of the parasites for the action of this compound and to determine if AGN can affect the life cycle of *T cruzi*.

A33
BEHAVIOR OF RENAL HEK293 CELLS ON HYDROGELS BASED ON POLY-*N*-ISOPROPYL ACRYLAMIDE (PNIPAM)

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Synthetic or natural hydrogels have mechanical properties and physicochemical characteristics that simulate the properties of the extracellular matrix (EMC) of body tissues, providing an environment that mimics the native cellular milieus and allows cell growth and adhesion. Hydrogels based on poly-*N*-isopropylacrylamide (PNIPAM) and their co-polymers have attracted a great attention in the biomedical field due to their biocompatibility, smooth texture, and absence of cytotoxicity against several cell lines, characteristics that would allow tissue development. Based on this background, the aim of this study focused on evaluating the biocompatibility of PNIPAM and co-polymers surfaces with the HEK293 cell line, constituted by human embryonic kidney cells, under*in vitro* conditions. Cytotoxicity, genotoxicity, proliferation, adhesion, and cellular mitotic/fragmentation relation in contact with surfaces of PNIPAM and co-polymers with neutral or ionic characteristics in different proportions were carried out. The