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PROTEOMIC APPROACH TO ENDOMETRIAL CARCINOMA INVASION FRONT

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Tumor invasion defines the transition between tissue-restricted carcinomas, with good outcome as optimal surgery becomes possible, and metastatic tumors associated with poor prognosis and a dramatic decreased in survival. In endometrial cancer, myometrial infiltration represents a determinant parameter highly valuable in prognosis. A profound spatio-temporal regulation from both the tumor and the surrounding stroma occurs at the invasive front. To date, the identification of proteins involved in endometrial carcinoma invasion has been essentially conducted by immunohistochemical methods, without a global perception on the invasive front.

In this work we attempted a proteomic approach to characterise specific components of the invasive front or reactive stroma by comparing, using 2D-DIGE, the invasive area of an endometrial carcinoma with the non-invasive superficial area and normal tissue from the same patients. This strategy led us to identify proteins involved in cellular morphology, assembly and movement, differentially expressed at the invasive front, as well as pathways like cell-to-cell signalling and interaction or a modulated response to oxidative stress as events related to endometrial carcinoma invasion.

In conclusion, we describe a novel proteomic approach that specifically tackles with endometrial carcinoma invasion front, allowing the identification of new players of myometrial infiltration.