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TÍTULO: Proteomic analysis of gastric cancer cell lines reveals BAT1 role in gastric carcinogenesis

OBJECTIVO: Our group previously established three gastric cancer cell lines -ACP02 (diffuse), ACP03 (intestinal) and AGP01 (cancerous ascitic fluid). AGP01 cells migrate and invade more than ACP02 and ACP03. Proteomic analyses may reflect the functional state of cancer cells and help in the identification of anticancer targets. We aimed to compare the protein profile of ACP02, ACP03 and AGP01 cell lines and evaluate the mRNA expression and protein immunoreactivity of BAT1 in gastric tissue samples.

MATERIAL E MÉTODOS: ACP02, ACP03 and AGP01 proteins were analyzed by two-dimensional electrophoresis and mass spectrometry.

BAT1 expression was evaluated by immunohistochemistry in 25 pairs of tumoral and nontumoral gastric samples and by RT-qPCR in 34 pairs of tumoral and nontumoral gastric samples.

RESULTADOS: We detected 25 differentially expressed proteins between AGP01 and ACP02 cells, as well as between AGP01 and ACP03 cells. Only 4 proteins were differently expressed between ACP02 and ACP03 cells. BAT1 was only expressed in the ACP02 and ACP03 cells. Tumoral and nontumoral samples presented BAT1 expression. Compared to matched nontumoral cells, 28% of tumor presented higher intensity and 16% of tumors presented lower intensity of BAT1 immunoreactivity. Tumors presented a significantly reduced BAT1 expression than nontumoral samples (p=0.017).

DISCUSSÃO: The proteins identified by proteomic analysis may play a role in gastric cell migration and invasion. BAT1 may act in gastric carcinogenesis as a tumor suppressor.

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