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**Global microRNA profiling in favorable prognosis subgroups of cancer of unknown primary (CUP) demonstrates no significant expression differences with metastases of matched known primary tumors.**

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**Source**

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**Abstract**

No data exist on biologic differences between Cancer of unknown primary (CUP) and metastatic solid tumors of known primary site. We assigned a primary tissue of origin in 40 favorable CUP patients (A: serous peritoneal carcinomatosis n = 14, B: axillary adenocarcinoma n = 8, C: upper squamous cervical adenopathy n = 18) by means of a 64-microRNA assay. Subsequently, we profiled the expression of 733 microRNAs (miRs) in the CUP cases and compared results with metastases from 20 ovarian carcinomas, 10 breast adenocarcinomas, 20 squamous head neck or lung tumors. In the Peritoneal CUP versus Ovarian (Known Primary Metastases) KPM comparison, a total of 12 miR were significantly differentially expressed: higher than twofold expression difference in CUP was seen only for miR-513a-5p (3.7-fold upregulated) and miR-483-5p (2.5-fold upregulated), while miR-708 exhibited a twofold downregulation. In the Breast CUP versus Breast KPM comparison, only miR-29c that were downregulated in CUP by 2.7-fold satisfied the FDR threshold. miR-30e and miR-27b, downregulated in ovarian CUPs versus KPMs, were also non-significantly downregulated in breast CUP by 2.0- and 1.4-fold respectively. Six miRs, which belong to the 17-92 oncocluster showed a trend of upregulation in Breast CUP versus Breast KPM cases. A CUP signature remains elusive.