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Pre-micro RNA signatures delineate stages of endothelial cell transformation in Kaposi sarcoma.

O'Hara AJ, Chugh P, Wang L, Netto EM, Luz E, Harrington WJ, Dezube BJ, Damania B, Dittmer DP

PLoS Pathog 2009 Apr **5**(4):e1000389 [abstract on PubMed]
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Selected by | Liguo Wu and Lindsey Hutt-Fletcher NEW
Evaluated 26 Jun 2009
Relevant Sections

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Liguo Wu and **Lindsey Hutt-Fletcher** Louisiana State University Health Sciences Center, United States of America Microbiology New Finding	**This paper profiles precursor microRNA (pre-miRNA) expression in endothelial cells and identifies mir-221, mir-140, mir-15a and mir-24 as potentially relevant to endothelial tumor progression. mir-24 in particular is seen as a biomarker for Kaposi sarcoma (KS). These kinds of studies may lead to improved therapeutic targeting and ultimately shed new light on basic mechanisms of tumorigenesis, though in these early stages they also provide a sobering reminder of the complexity of the systems that we are trying to understand.** KS is a human cancer of endothelial origin and it is tightly associated with KS-associated herpesvirus (KSHV). miRNAs are important regulators of cell fate and many investigators are now compiling miRNA profiles in different cell lineages and tumors. Pre-miRNAs are an intermediate in the production of mature miRNAs and since they are longer than miRNAs they can be more specifically identified. Using quantitative real-time PCR-based pre-miRNA profiling, the authors of this carefully executed and thoughtfully written paper stratify the progressive stages of KS. They compare the pre-miRNA profiles of KS biopsies from AIDS patients with well-established immortalized cell lines and mouse tumor models and speculate, not unreasonably, that the strength of association that they see between expression of particular pre-miRNAs suggests that they are functionally involved in KS tumorigenesis. As a transformation driving force, KSHV viral miRNAs, not unexpectedly, increased linearly with the progression of transformation. However, since all the KS biopsies were from AIDS patients, the possibility that HIV viral proteins directly or indirectly make a contribution to the KS pre-miRNA profiles cannot be excluded. **Competing interests:** None declared Evaluated 26 Jun 2009 NEW

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Lindsey Hutt-Fletcher: Faculty of 1000 Biology, 26 Jun 2009 http://www.f1000biology.com/article/id/1161435/evaluation