

Blood platelets take up exosomes and can be used as diagnostics platform for tumor-derived RNA biomarkers

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Abstract

Diagnostic platforms providing biomarkers which are highly predictive for diagnosing, monitoring, and stratifying cancer patients are key instruments in the development of personalized medicine. We demonstrate that tumor cells transfer (mutant) RNA via microvesicles into blood platelets. We show that blood platelets isolated from various cancer patients contain cancer-associated RNA biomarkers. In addition, gene expression profiling revealed distinct RNA signature in platelets from cancer patients as compared to normal control subjects. Because platelets are easily accessible and isolated, they may form an attractive platform for the companion diagnostics of cancer.