Electronic Supplementary Material (ESI) for Lab on a Chip.

Supplementary Material

Microfluidic Device for High-Throughput Affinity-based Isolation of Extracellular Vesicles

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S1. EV isolation comparison

Table S1. Comparison of EV isolation methods

Isolation methods	Advatage	Disadvatage	Yield	Purity
Ultracetrifugation	Apply to most sample types Large capacity Isolate all types of EVs	Long process time Low yield High equpiment cost	low	High
Ultrafiltration	Simple procedure Fast	Small capacity Low yield Potential damage to EVs	low	high
Polymerbased-precipitation	Simple procedure Large capacity Low cost	Low purity High non-vesicluar comtamination Additional steps to cleanup	low	low
Immunoaffinity	High purity Seletion of EV population	Small sample capacity Inability to harvest intact EV	High	High

S2. EV isolation and release using clinical samples

Table S2. Patient demographics

Cancer Type	Sample ID	Sample description				
		Sex	Age	Stage	Location	Subtype
Lung cancer	***LP1***	Male	50	IIIA	Lung	Adenocarcinoma
	LP2	Male	70	IIIB	Lung	Adenocarcinoma
	LP3	Female	65	IIIB	Lung	Adenocarcinoma
	LP4	Female	66	IIIB	Lung	Squamous cell
Healthy control	***HC1***	Male	24	NA	NA	NA
	HC2	Female	27	NA	NA	NA
	HC3	Male	22	NA	NA	NA

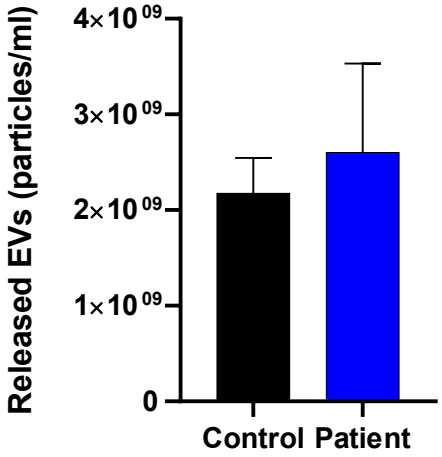

Figure S1. NTA analysis of harvested EV from lung cancer patients (n=4) and healthy donors (n=3)