

## High DNA integrity sperm selection using surface acoustic waves

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Table 1. Significance between categorized cell groups for each case. □ \* $P \leq 0.05$ , \*\* $P \leq 0.01$ , \*\*\* $P \leq 0.001$  and \*\*\*\* $P \leq 0.0001$ .

Sample ID	VCL	VAP	VSL	BCF	ALH	LIN
Sample1-Raw vs Discarded	****	****	****	***	****	**
Sample1-Raw vs Selected	****	****	*	*	ns	*
Sample2-Raw vs Discarded	**	**	**	***	****	ns
Sample2-Raw vs Selected	****	****	****	****	****	****
Sample3-Raw vs Discarded	***	****	****	ns	***	****
Sample3-Raw vs Selected	****	****	****	****	*	ns

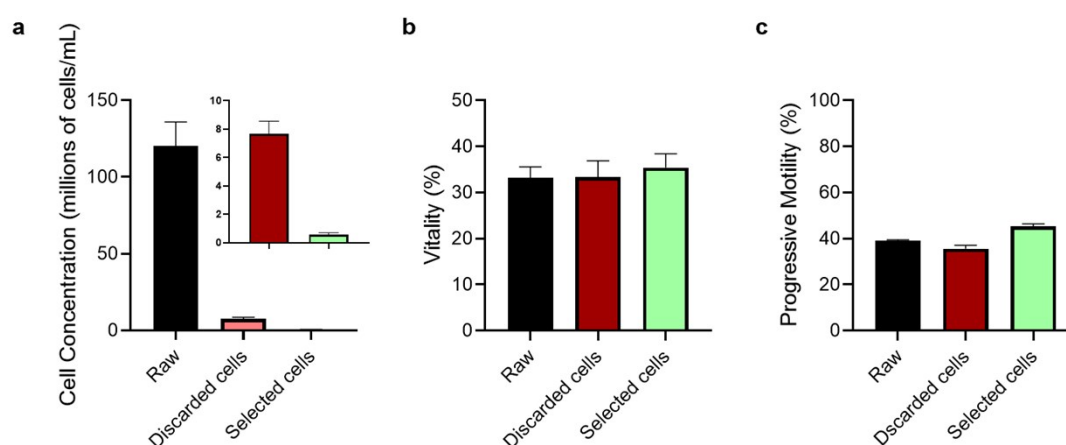
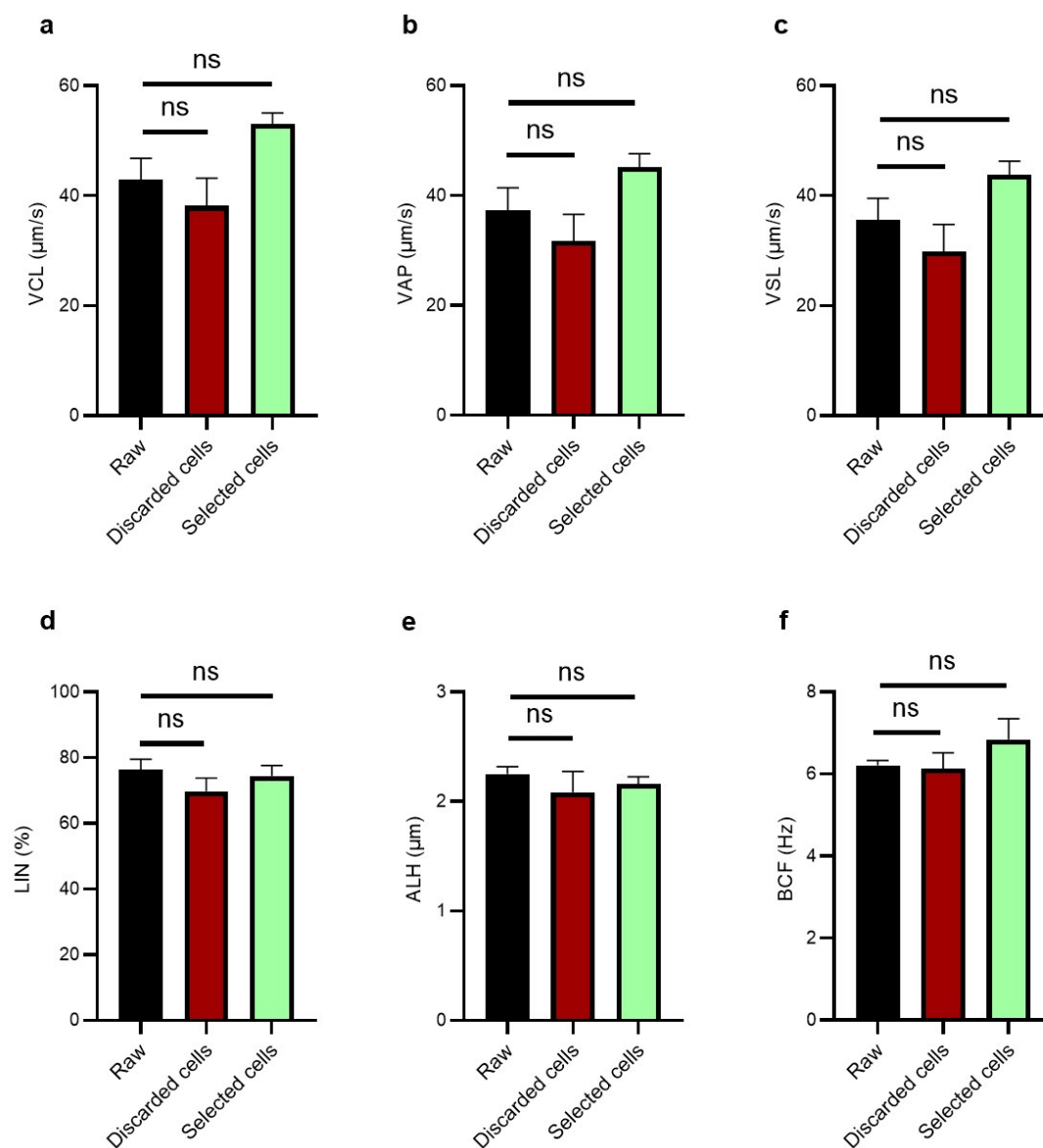
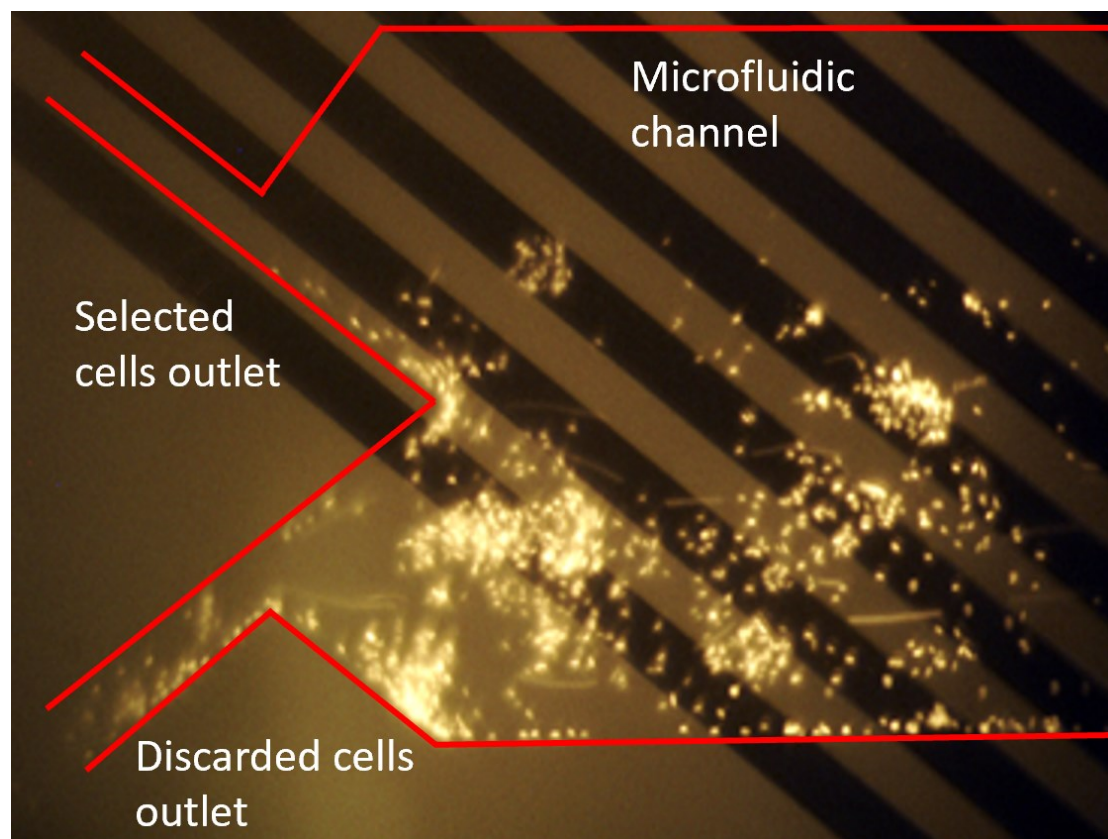


Figure S1. Sperm quality analysis for controlled experiments in the absence of an applied acoustic field. (a) Sperm concentration, (b) vitality, and (c) progressive motility for selected sperm solely based on motility compared with the initial raw sample and discarded sperm (cells remained in the mainstream). Values are reported as mean  $\pm$  s.d. for 3 independent experiments.



**Figure S2.** Sperm motility analysis for controlled experiments in the absence of an applied acoustic field. (a) Curvilinear velocity (VCL), (b) average path velocity (VAP), (c) straight line velocity (VSL), (d) linearity (LIN), (e) lateral head displacement (ALH), and (f) beat cross frequency (BCF) for selected sperm as compared with the raw sperm sample and discarded sperm. Values are reported as mean  $\pm$  s.d. for 3 independent experiments where over 25 sperm were analysed in each experiment, and 'ns' denotes not significant.



**Figure S3.** Cell Stiction after 50min experiment