

# Supplementary Materials: Improved Post-Thaw Quality of Canine Semen after Treatment with Exosomes from Conditioned Medium of Adipose-Derived Mesenchymal Stem Cells

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**Table S1.** Motility characteristics of dog sperm cooled at 4 °C for 8–10 h.

Groups	Progressive motility (%)	VCL (µm/sec)	VSL (µm/sec)	VAP (µm/sec)	BCF (Hz)
Control	40.5 ± 0.4 <sup>a,b,c</sup>	98.5 ± 0.8 <sup>b</sup>	31.1 ± 0.6	50.9 ± 0.6	5.5 ± 0.2
25 µg/ mL	39.5 ± 0.3 <sup>b</sup>	96.0 ± 1.1 <sup>b</sup>	29.9 ± 0.6	49.0 ± 0.6	5.4 ± 0.2
50 µg/ mL	41.6 ± 0.7 <sup>a</sup>	103.1 ± 1.1 <sup>a</sup>	31.4 ± 0.3	52.7 ± 0.8	6.1 ± 0.3
100 µg/ mL	38.6 ± 0.4 <sup>c</sup>	96.8 ± 1.1 <sup>b</sup>	29.8 ± 0.5	50.2 ± 0.6	5.4 ± 0.6

Values with different superscripts letters in a column differ significantly ( $p < 0.05$ ,  $n = 4$ ). VCL, Curvilinear velocity; VSL, Straight-line velocity; VAP, Average path velocity; BCF, Beat cross frequency.

**Table S2.** Effect of exosomal treatment on the progressive motility and velocities of post-thaw dog semen.

Group	Progressive motility (%)	VCL (µm/sec)	VSL (µm/sec)	VAP (µm/sec)	BCF (Hz)
Control	20.9 ± 0.6 <sup>b</sup>	50.1 ± 0.9 <sup>b</sup>	17.7 ± 0.7 <sup>b</sup>	27.7 ± 0.3 <sup>b</sup>	2.5 ± 0.0 <sup>b</sup>
Treatment (50 µg/mL)	25.3 ± 0.8 <sup>a</sup>	62.6 ± 1.1 <sup>a</sup>	20.6 ± 0.5 <sup>a</sup>	32.1 ± 0.5 <sup>a</sup>	3.2 ± 0.1 <sup>a</sup>

Values with different superscripts letters in a column differ significantly ( $p < 0.05$ ,  $n = 4$ ). VCL, Curvilinear velocity; VSL, Straight-line velocity; VAP, Average path velocity; BCF, Beat cross frequency.