

**Studies on the Viability of Frozen Removed Seminal
Plasma by Saline(RSP-S) and Tris-buffer(RSP-T)
Semen of Small Species Dogs**

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This study was carried out to investigate the general characteristics such as volume, sperm concentration, sperm motility, sperm abnormality on whole semen, RSP-S and RSP-T semen and fractional semen of small size dogs, and the effect of temperature and preservation time and cryopreservation on motility of whole and RSP-S and RSP-T semen. Multiple ejaculates were collected from small dogs by the digital manipulation of penis.

1. The volume per ejaculate semen, sperm of concentration and motility and abnormal sperm rate of 1st fractional semen were 0.65 ± 0.09 ml, $4.52 \pm 0.35 \times 10^6$ cells/ml, $15.64 \pm 3.85\%$ and $5.50 \pm 0.62\%$. Also, 2nd fractional semen were 1.25 ± 0.20 ml, $3.35 \pm 0.48 \times 10^6$ cells/ml, $96.25 \pm 4.65\%$ and $4.24 \pm 0.46\%$. And 3rd fractional semen were 1.45 ± 0.21 ml, $3.85 \pm 0.52 \times 10^6$ cells/ml, $92.82 \pm 4.24\%$ and $4.66 \pm 0.58\%$, respectively.

2. The sperm of concentration and motility and abnormal sperm rates of whole, RSP-S and RSP-T semen were $5.45 \pm 0.82 \times 10^6$ cells/ml, $95.55 \pm 4.65\%$, $4.58 \pm 0.45\%$ and $4.82 \pm 0.36 \times 10^6$ cells/ml, $90.10 \pm 3.42\%$, $6.48 \pm 0.68\%$ and $4.55 \pm 0.45 \times 10^6$ cells/ml, $93.25 \pm 3.85\%$, $4.82 \pm 0.58\%$, respectively.

3. The motility of whole, RSP-S and RSP-T semen were higher at 4°C than at 38°C . When preservation temperature was at 4°C , survival rates of RSP-S and RSP-T sperm were 97.54% - 6.25% at 1-72 hrs, 97.40% - 5.62% at 1-100 hrs, respectively.

4. The survival rates of slow and rapid frozen 2nd fraction, RSP-S and RSP-T semen were $67.3 \pm 4.45\%$, $88.8 \pm 4.46\%$ and $46.4 \pm 3.84\%$, $74.4 \pm 4.20\%$, respectively. Survival rates was significantly higher in frozen RSP-S and RSP-T semen than that in control group($8.5 \pm 2.12\%$).

(Key words : dog, RSP-S, RPS-T, freezing, survival rate)