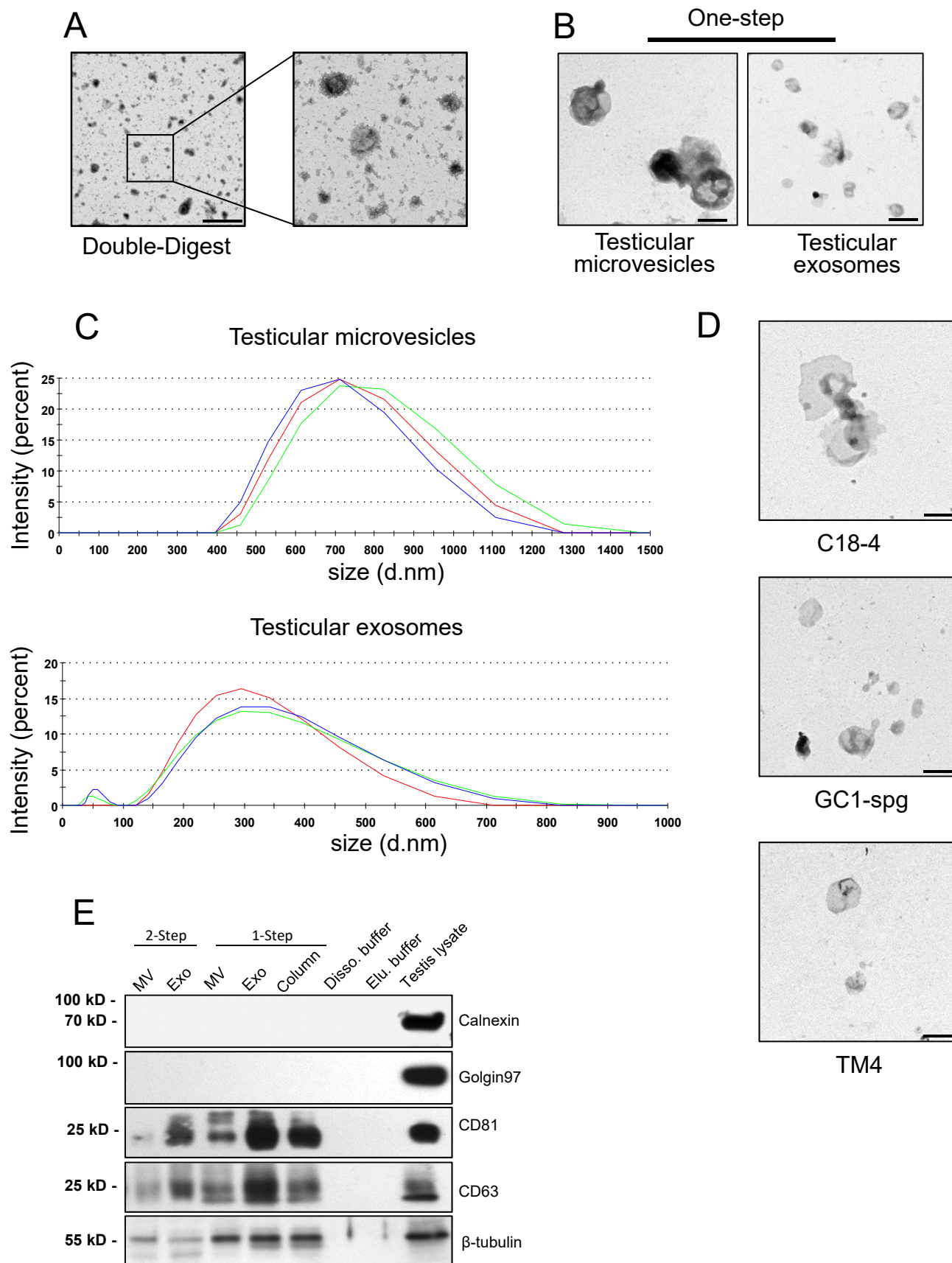
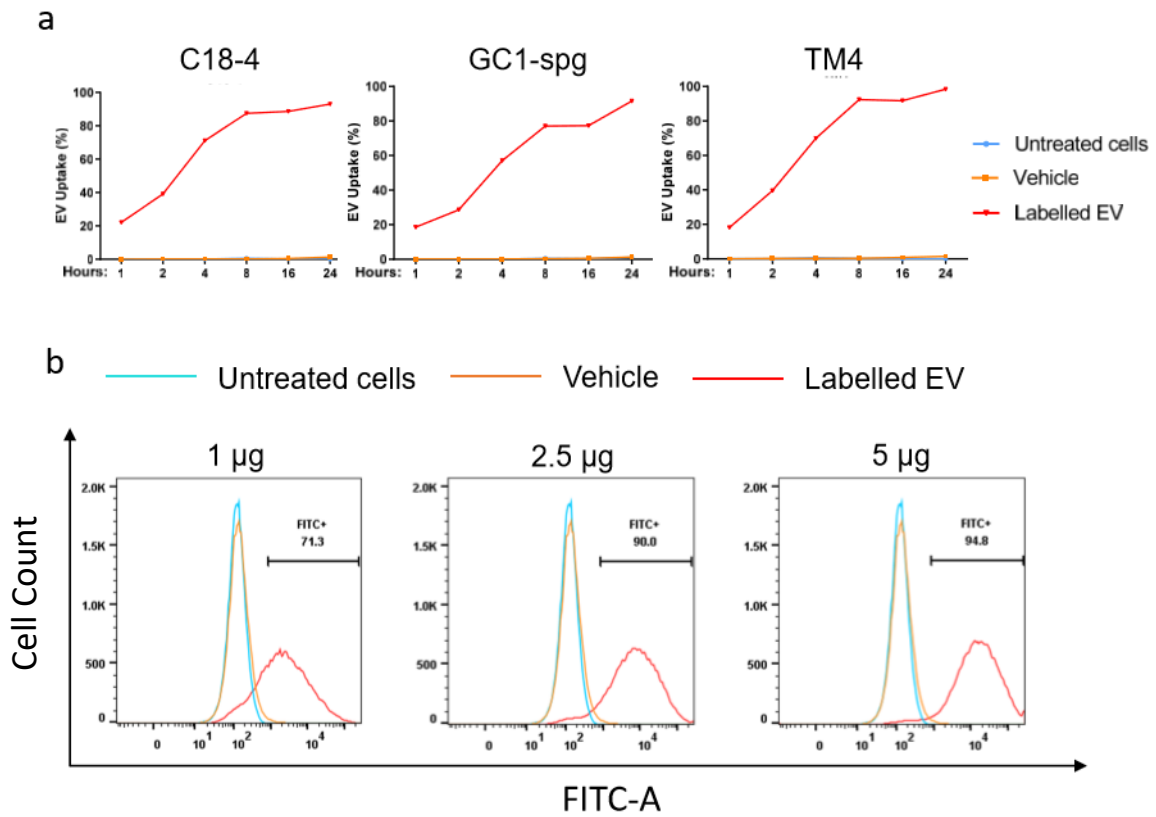


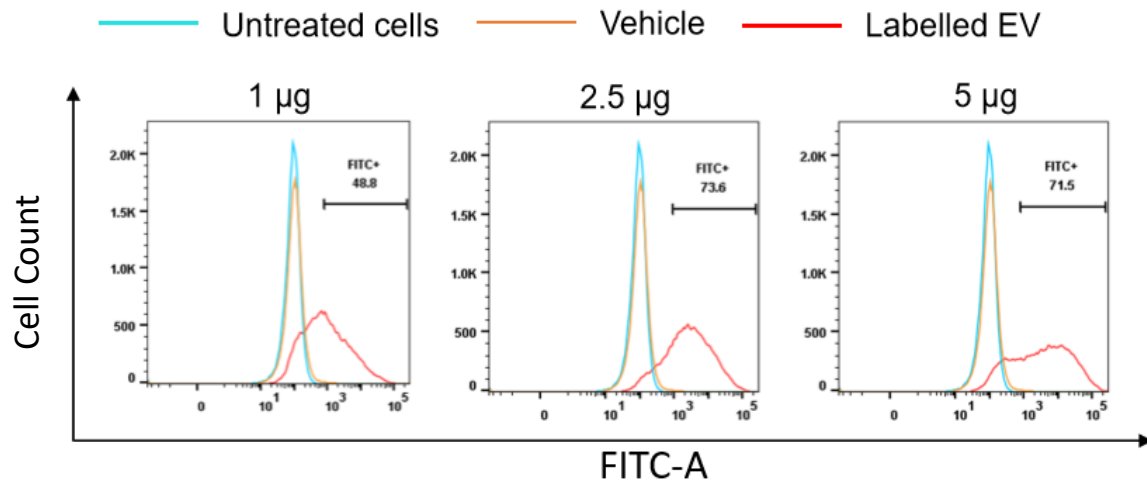
Additional File 1: Fig. S1| Comparison of one-step and double-enzyme digestion methods for mouse testis dissociation.



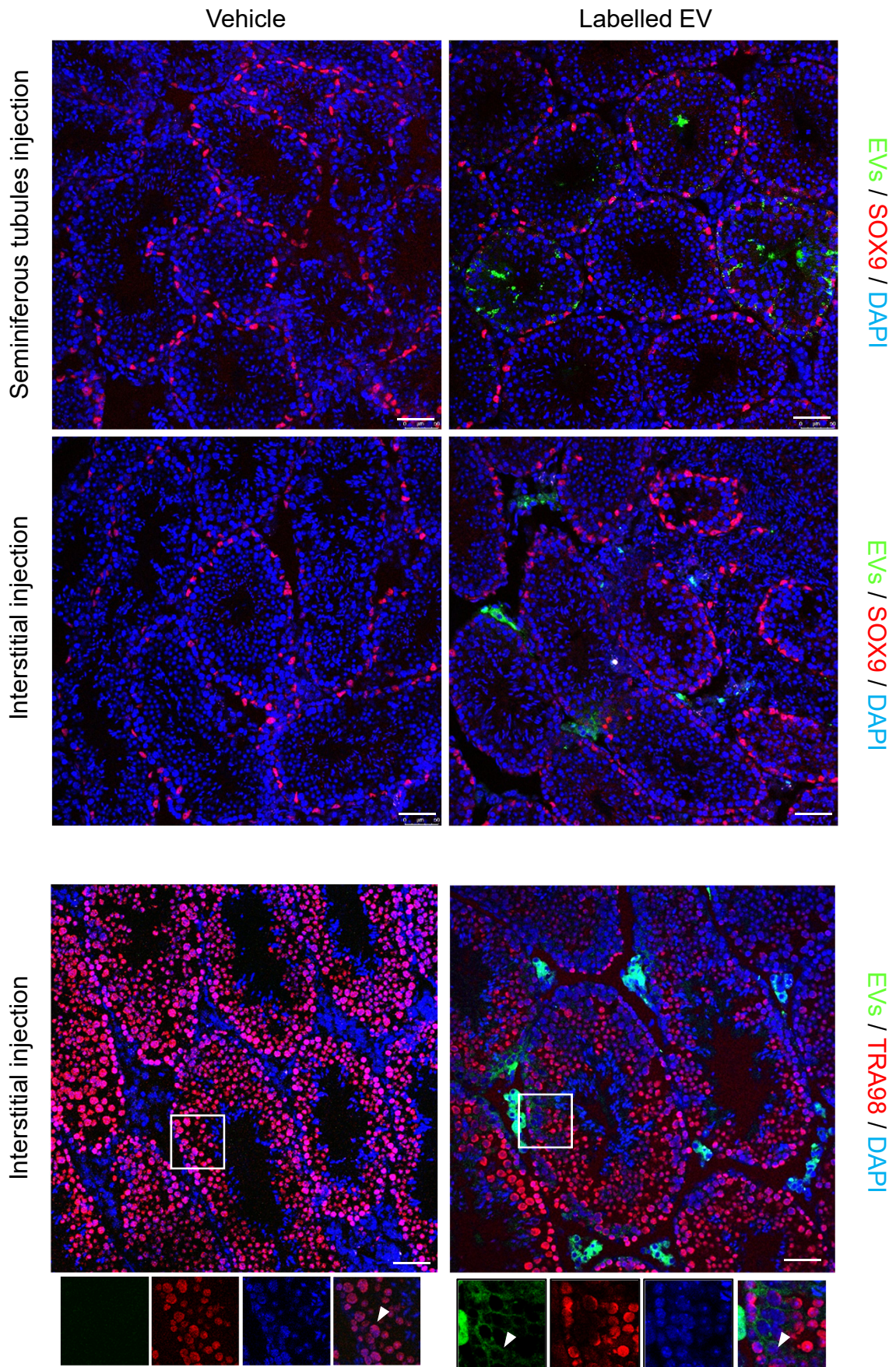
Additional File 1: Fig. S2| Isolation and characterization of extracellular vesicles in mouse testes and testicular cell lines



Additional file 1: Fig. S3| Time and dose-dependent uptake of testicular extracellular vesicles by testicular cell lines.



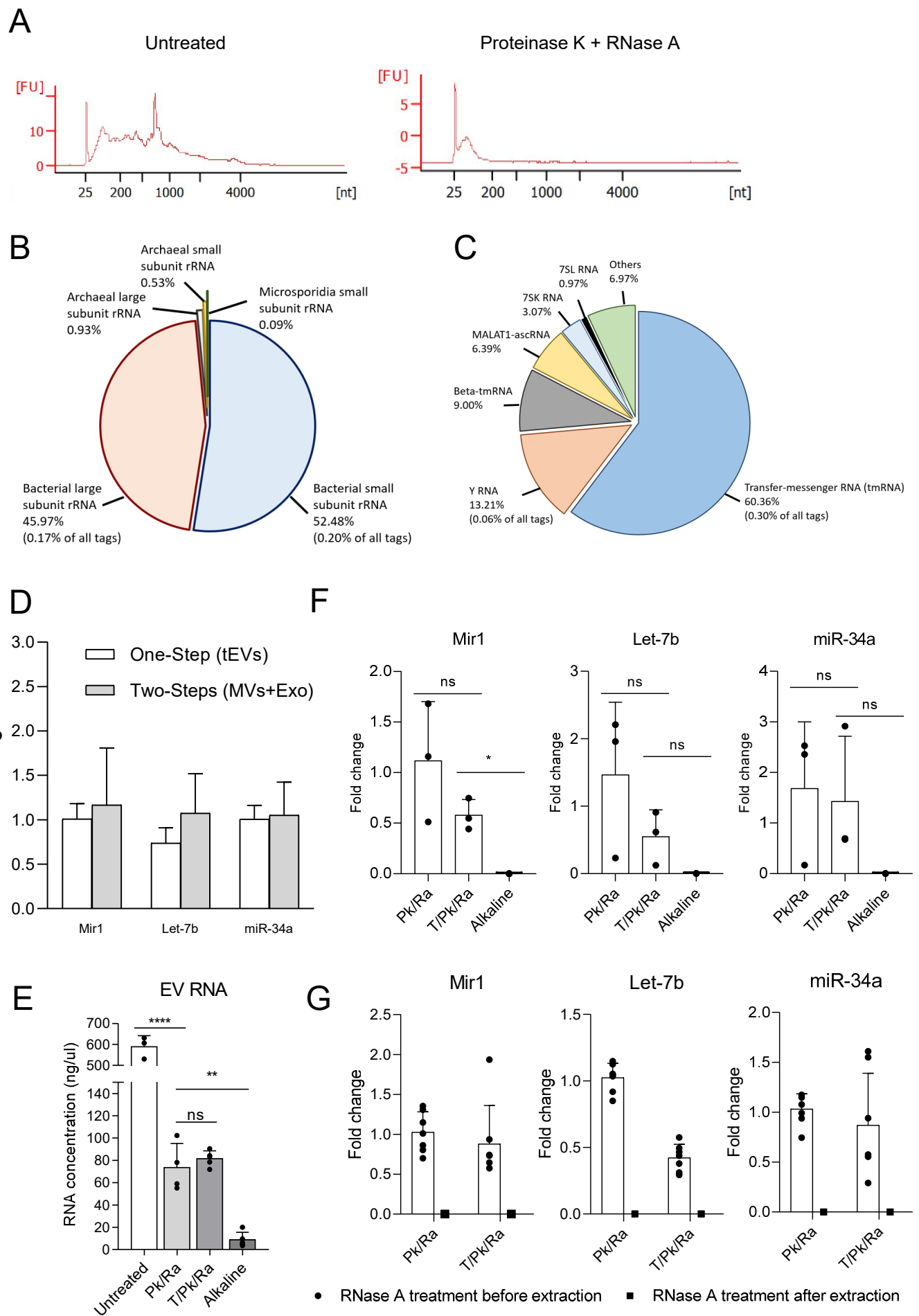
Additional file 1: Fig. S4| Uptake of extracellular vesicles secreted from 293FT cells by C18-4 cells.



Additional file 1: Fig. S5| Uptake of testicular EVs in testicular cells of interstitial and seminiferous tubules compartments.

Gene name	Accession	Protein Name	Phenotype information
<i>Slc2a3</i>	P32037	Solute carrier family 2, facilitated glucose transporter member 3	Decrease litter size
<i>Vdac3</i>	Q60931	Voltage-dependent anion-selective channel protein 3	Male infertility
<i>Gpx4</i>	F7A8H6	Glutathione peroxidase	Male infertility
<i>Slc25a3</i>	Q8VEM8	Phosphate carrier protein mitochondrial	Testis atrophy
<i>Ace</i>	P09470	Angiotensin-converting enzyme	Reduced male fertility
<i>Sypl1</i>	O09117	Synaptophysin-like protein 1	Male infertility
<i>Gapdh</i>	A0A0R4J0X7	Glyceraldehyde-3-phosphate dehydrogenase	Male infertility
<i>Atp2a2</i>	O55143	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2	Decrease litter size
<i>Aqp7</i>	O54794	Aquaporin-7	Abnormal sperm
<i>Bsg</i>	P18572	Basigin	Male infertility
<i>Snrpe</i>	P62305	Small nuclear ribonucleoprotein E	Testis atrophy

Additional file 1: Fig. S6| Phenotype of male mice with knockout of genes encoding top proteins identified in testicular EVs.



Additional file 1: Fig. S7| Characterization of the small RNA cargoes of testicular EVs.