Isolation, characterization and stabilization of urinary Extracellular vesicles (EVs) and EV RNA

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EV RNA content in different urine fractions.

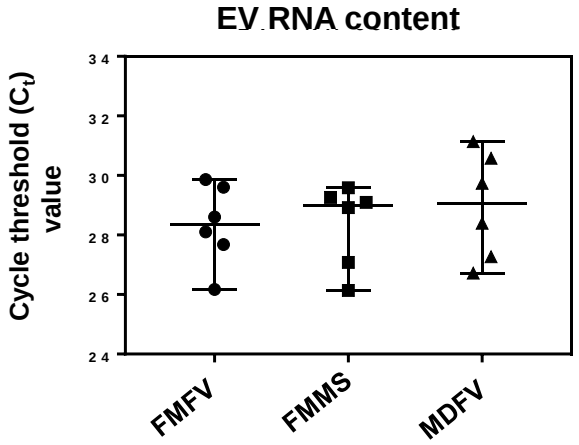
Urine fractions studied:
- First morning first void (FMFV)
- First morning first midstream (FMMS)
- Mid-day/ random first void (MDFV)

Extraction techniques used:
- Qiagen ExoRNeasy Maxi kit

RNA quantification:
- RT-qPCR assay on β-actin (ACTB)

Colli-Pee device (Novosanis)

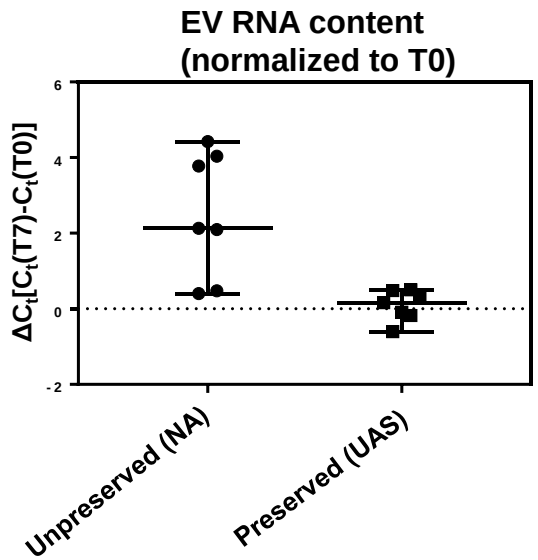
Figure 1



DNA Genotek's proprietary urinary analyte stabilizer (UAS) preserves detection of EV RNA in urine samples for 7 days at RT.

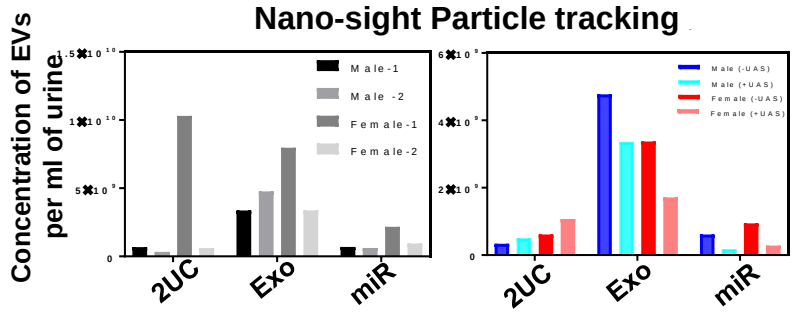
- Mid-day/ random First void urine samples with and without UAS (UAS:urine ratio = 0.4:1).
- EV RNA extraction: Qiagen ExoRNeasy Maxi kit
- RNA Quantification: RT-qPCR assay on β-actin (ACTB)

Figure 2



Total EV concentration appears to be both donor and extraction method dependent.

Figure 3



2UC- Ultra-centrifugation; Exo- Qiagen Exo Easy kit; miR- Qiagen miRCURY exosome isolation kit

Evidence for urinary exosome concentration to be both donor and extraction method dependent.

Figure 4