

Table S5 Part1. Correlation of serum EV-delivered miR-181a-5p expression with clinical pathologic parameters in whole population in Cohort I + II (n=176)

| Parameters | Total (n, %) | Relative EVderived miR-181a expression* | | | P-value |
|--------------------------------|-----------------|---|-------------------------|--------------|------------|
| | | High (> 1.25) | No change (0.75 - 1.25) | Low (< 0.75) | |
| Age, years | | | | | P = 0.055 |
| <60 | 22 (12.5) | 14 (63.6) | 1 (4.5) | 7 (31.8) | |
| 60-69 | 69 (39.2) | 45 (65.2) | 14 (20.3) | 10 (14.5) | |
| 70-79 | 69 (39.2) | 49 (71.0) | 12 (17.4) | 8 (11.6) | |
| >79 | 16 (9.1) | 13 (81.3) | 3 (18.8) | 0 (0) | |
| PSA, µg/L | | | | | P < 0.0001 |
| <10 | 42 (23.9) | 16 (38.1) | 10 (23.8) | 16 (38.1) | |
| 10-19.99 | 23 (13.1) | 13 (56.5) | 7 (30.4) | 3 (13) | |
| 20-49.99 | 44 (25) | 33 (75) | 8 (18.2) | 3 (6.8) | |
| >49.99 | 67 (38.1) | 59 (88.1) | 5 (7.5) | 3 (4.5) | |
| Pathological results1 | | | | | P < 0.0001 |
| Non-Prostate cancer | 43 (24.4) | 15 (34.9) | 10 (23.3) | 18 (41.9) | |
| prostate cancer | 133(75.6) | 106 (79.7) | 20 (15) | 7 (5.3) | |
| Pathological results2 | | | | | P < 0.0001 |
| BPH / indolent prostate cancer | 62 (35.2) | 26 (41.9) | 17 (27.4) | 19 (30.6) | |
| aggressive prostate cancer | 114(64.8) | 95 (83.3) | 13 (11.4) | 6 (5.3) | |

*: Normality with cel-miR-54-3p as an exogenous control

Table S5 Part2: Univariate analyses of the association of predictors with prostate cancer, aggressive prostate cancer or bone metastatic prostate cancer*

| Parameters | prostate cancer | | Aggressive prostate cancer | | Bone-metastatic prostate cancer | |
|---|---------------------|---------|----------------------------|---------|---------------------------------|---------|
| | OR (95%CI) | P value | OR (95%CI) | P value | OR (95%CI) | P value |
| Age, years | 1.060 (1.016-1.107) | 0.007 | 1.054 (1.014-1.096) | 0.008 | 1.013 (0.970-1.058) | 0.564 |
| PSA, µg/L | 1.027 (1.013-1.041) | <0.001 | 1.022 (1.012-1.032) | <0.001 | 1.005 (1.001-1.009) | 0.027 |
| Relative expression of EV derived miR-181a | 2.506 (1.658-3.789) | <0.001 | 2.262 (1.623-3.154) | <0.001 | 1.401 (1.154-1.701) | 0.001 |

*: Normality with cel-miR-54-3p as an exogenous control