

*Supplementary Materials*

# Sex-specific differences in Extracellular vesicle protein cargo in synovial fluid of patients with osteoarthritis.

**Table S1.** Selected David Gene Ontology pathways affected by EVs cargo proteins in male OA.

| GO         | Term   | P-value  |
|------------|--|----------|
| GO:0032101 | regulation of response to external stimulus              | 0.065925 |
| GO:0048646 | anatomical structure formation involved in morphogenesis | 0.065925 |
| GO:0044093 | positive regulation of molecular function                | 0.070259 |
| GO:0051240 | positive regulation of multicellular organismal process  | 0.071287 |
| GO:0006950 | response to stress                                       | 0.081534 |
| GO:0032991 | protein-containing complex                               | 0.065925 |
| GO:0070062 | extracellular exosome                                    | 0.083457 |
| GO:0043230 | extracellular organelle                                  | 0.088329 |
| GO:1903561 | extracellular vesicle                                    | 0.088329 |
| GO:0005615 | extracellular space                                      | 0.155983 |
| GO:0098772 | molecular function regulator                             | 0.165078 |
| GO:0005515 | protein binding  | 0.170425 |
| GO:0005488 | binding  | 0.32984  |
| GO:0003674 | molecular_function                                       | 0.537787 |

**Table S2.** Selected QuickGO pathways affected by EVs cargo proteins in male OA.

| Biological Function involved | Signaling Involved  |
|------------------------------|---|
| biological_process           | regulation of response to external stimulus                   |
| biological_process           | anatomical structure formation involved in morphogenesis      |
| biological_process           | positive regulation of molecular function                     |
| biological_process           | positive regulation of multicellular organismal process       |
| biological_process           | response to stress  |
| biological_process           | positive regulation of response to stimulus                   |
| biological_process           | anatomical structure morphogenesis                            |
| biological_process           | response to external stimulus                                 |
| biological_process           | regulation of molecular function                              |
| biological_process           | macromolecule localization                                    |
| biological_process           | cellular response to chemical stimulus                        |
| biological_process           | protein metabolic process                                     |
| biological_process           | regulation of multicellular organismal process                |
| molecular_function           | molecular function regulator                                  |
| molecular_function           | protein binding   |
| molecular_function           | binding   |
| molecular_function           | molecular_function  |
| molecular_function           | retinoic acid receptor binding                                |
| molecular_function           | thyroid hormone receptor coactivator activity                 |
| molecular_function           | exodeoxyribonuclease activity                                 |
| molecular_function           | 3'-5'-exodeoxyribonuclease activity                           |
| molecular_function           | exodeoxyribonuclease activity, producing 5'-phosphomonoesters |

---

|                    |                               |
|--------------------|-------------------------------|
| cellular_component | protein-containing complex    |
| cellular_component | extracellular exosome         |
| cellular_component | extracellular organelle       |
| cellular_component | extracellular vesicle         |
| cellular_component | extracellular space           |
| cellular_component | membrane-bounded organelle    |
| cellular_component | membrane-enclosed lumen       |
| cellular_component | organelle lumen               |
| cellular_component | intracellular organelle lumen |
| cellular_component | vesicle                       |
| cellular_component | organelle                     |
| cellular_component | extracellular region          |
| cellular_component | intracellular organelle       |
| cellular_component | nucleus                       |

---