**Table S4.** Unique variants in lncRNAs associated with mitochondrial dynamics identified in teratozoospermic men after filtering. Variants shared between two subcategories of male infertility are marked with double asterisks (**), while those common to all three subcategories are marked with triple asterisks (***).

| Variant | Allele | Gene name | Ensembl ID |
|---|---|---|---|
| rs76035707 | T | *MEG3* | ENSG00000214548 |
| rs147430031 | G | *MEG3* | ENSG00000214548 |
| rs559684919 | - | *MEG3* | ENSG00000214548 |
| rs142547171** | A | *MEG3* | ENSG00000214548 |
| rs182698882 | T | *UCA1* | ENSG00000214049 |
| rs147453927 | A | *TUG1* | ENSG00000253352 |
| rs951410939 | - | *HOTTIP* | ENSG00000243766 |
| rs17501326 | G | *HOTTIP* | ENSG00000243766 |
| rs75608030** | A | *PVT1* | ENSG00000249859 |
| rs80289709** | T | *PVT1* | ENSG00000249859 |
| rs145861869 | T | *PVT1* | ENSG00000249859 |
| rs1293520072*** | T | *PVT1* | ENSG00000249859 |
| rs55789181 | T | *PVT1* | ENSG00000249859 |
| rs940647818 | C | *PVT1* | ENSG00000249859 |
| rs35294273 | A | *PVT1* | ENSG00000249859 |
| rs753147910 | A | *PVT1* | ENSG00000249859 |
| rs75852829 | T | *PVT1* | ENSG00000249859 |
| rs62512788 | G | *PVT1* | ENSG00000249859 |
| rs75299468 | G | *PVT1* | ENSG00000249859 |
| rs79798186 | C | *PVT1* | ENSG00000249859 |
| rs62512808*** | A | *PVT1* | ENSG00000249859 |
| rs62512809 | G | *PVT1* | ENSG00000249859 |
| rs62512811 | A | *PVT1* | ENSG00000249859 |
| rs62512840*** | G | *PVT1* | ENSG00000249859 |
| rs1420354484 | CCC | *PVT1* | ENSG00000249859 |
| rs117208114** | A | *PVT1* | ENSG00000249859 |
| rs74559819** | A | *PVT1* | ENSG00000249859 |
| rs192616921 | T | *PVT1* | ENSG00000249859 |
| rs16902624 | G | *PVT1* | ENSG00000249859 |
| rs17382616** | G | *PVT1* | ENSG00000249859 |
| rs16935753 | A | *CDKN2B-AS1* | ENSG00000240498 |
| rs60693449 | C | *CDKN2B-AS1* | ENSG00000240498 |
| rs143070667 | T | *CDKN2B-AS1* | ENSG00000240498 |
| rs73652847 | A | *CDKN2B-AS1* | ENSG00000240498 |
| rs73652849 | A | *CDKN2B-AS1* | ENSG00000240498 |
| rs2151279 | G | *CDKN2B-AS1* | ENSG00000240498 |
| rs61743293*** | T | *CDKN2B-AS1* | ENSG00000240498 |
| rs543665338 | C | *CDKN2B-AS1* | ENSG00000240498 |
| rs4977754*** | C | *CDKN2B-AS1* | ENSG00000240498 |

| | | | |
|---|---|---|---|
| rs41386451 | C | *CDKN2B-AS1* | ENSG00000240498 |
| rs61374441 | C | *CDKN2B-AS1* | ENSG00000240498 |
| rs7855162 | C | *CDKN2B-AS1* | ENSG00000240498 |
| rs146293394 | A | *CDKN2B-AS1* | ENSG00000240498 |
| rs372394016 | T | *CDKN2B-AS1* | ENSG00000240498 |
| rs73448370 | T | *CDKN2B-AS1* | ENSG00000240498 |
| rs1547704 | A | *CDKN2B-AS1* | ENSG00000240498 |
| rs144853922 | C | *CDKN2B-AS1* | ENSG00000240498 |
| rs141546182 | G | *CDKN2B-AS1* | ENSG00000240498 |
| rs35998780 | TGTGTGTGTGTGTGTGTGTGTGT | *CDKN2B-AS1* | ENSG00000240498 |
| rs201704790 | AT | *CDKN2B-AS1* | ENSG00000240498 |
| rs141991179 | A | *CDKN2B-AS1* | ENSG00000240498 |