

Table S1. The gene list of PCD-related gene.

| Gene Name | | | | | | | |
|-----------|---------|---------|----------|--------|---------|--------|---------|
| DNAH5 | CCDC114 | DNAAF2 | DYX1C1 | RSPH3 | CCDC164 | MCIDAS | DNAH6 |
| DNAI1 | ARMC4 | DNAAF3 | SPAG1 | RSPH4A | CCDC65 | OFD1 | PIH1D3 |
| DNAI2 | CCDC151 | HEATR2 | CCDC103 | RSPH9 | DNAH11 | RPGR | DNAJB13 |
| DNAL1 | TTC25 | LRRC6 | C21orf59 | CCDC39 | HYDIN | DNAH8 | SKT36 |
| NME8 | DNAAF1 | ZMYND10 | RSPH1 | CCDC40 | CCNO | GAS8 | PRH1D3 |