

**Supplementary Table S1.** List of genes included in the panels.

| Panel 1 genes |        | Panel 2 genes |         |
|---------------|--------|---------------|---------|
| ALS2          | OPTN   | ANXA11        | NEK1    |
| ANG           | PFN1   | C19orf12      | PLD3    |
| BSCL2         | PSEN1  | CCNF          | PRPH    |
| CHMP2B        | PSEN2  | CHCHD10       | SIGMAR1 |
| DCTN1         | SETX   | CTSF          | SQSTM1  |
| ERBB4         | SOD1   | CYP27A1       | SS18L1  |
| FIG4          | SPG11  | DAO           | TAF15   |
| FUS           | TARDBP | DJ1           | TBK1    |
| GRN           | UBQLN2 | ELP3          | TIA1    |
| HNRNPA1       | VAPB   | EPB41L1       | TREM2   |
| MAPT          | VCP    | EWSR1         | TUBA4A  |
| MATR3         |        | GLE1          | UNC13A  |
|               |        | HNRPA2B1      | VRK1    |
|               |        | LMNB1         |         |