**Supplementary data**

**List of genes included in the** **NGS probes-based target panel**

*AARS, ALS2, ANG, ANXA11, AP5Z1, APEX1, ARHGEF28, ARPP21, ASAH1, ATXN2, BAG3, BSCL2, C21orf2, CHCHD10, CHMP2B, CRYM, CYP27A1, CYP7B1, DAO, DCTN1, DHTKD1, DPP6, ELP3, EPHA4, ERBB4, FIG4, FUS, GARS, GRN, HNRNPA1, HNRNPA2B1, HNRNPA3, HSPB1, HSPB3, HSPB8, IGHMBP2, KIF5A, MAPT, MATR3, MFN2, NEFH, NEK1, OPTN, PFN1, PNPLA6, PRNP, PRPH, PSEN1, PSEN2, REEP1, SETX, SIGMAR1, SOD1, SPAST, SPG11, SPG21, SPG7, SPTLC1, SQSTM1, TAF15, TARDBP, TREM2, TRPV4, TUBA4A, UBQLN2, VAPB, VCP, ZFVYVE26*