



**Supplementary Figure 3.** Pedigree structure, haplotype analyses and conservation of the *SHANK3* mutations and variants identified in individuals with autism. In family ASD 1, the proband carries a de novo 22q13 deletion on the paternal chromosome. In family ASD 2, the two affected siblings carry a G insertion on the maternal chromosome, originating from a germinal mosaicism. The insertion in exon 21 of *SHANK3* leads to a premature truncated protein. The proband of family ASD 4 carries the R12C *SHANK3* mutation, transmitted by the mother and shared with his healthy brother. The study of 10 SNPs revealed that the two brothers carrying the R12C variation don't share the same paternal allele of *SHANK3*. The proband of family ASD 5 carries the R300C *SHANK3* mutation, transmitted by the mother, located in the ankyrin domain. The promoter region, the 5'UTR and the 3'UTR of *SHANK3* were sequenced in the patients ASD 4 and ASD 5, but no additional variations were identified.