Supplementary Data 3. Sequences obtained from extracted nanopore reads using guppy as Basecaller in six expansion carriers from Families 1 and 2.

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a) 1-IV-6_1 (-)
GAAAACACTTATACTGTTGTGGTTCTGTTTTTTATTTATTTTATTTTTATTTTATTTTATTTTATTTTATTTTA
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c) 1-IV-6_3 (-)
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d) 1-IV-6_4 (+)

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f) 1-IV-9_1 (+)

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i) 2-IV-16_1 (+)
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The expansion is highlighted in yellow, with the TTTTA part in black letters and the TTTCA part in red letters. Sequences corresponding to the expected configuration of the expansion (**a-i**) have been trimmed and are shown on the + strand (sequences indicated with a (-) sign have been reverse complemented). **a-d**) Reads sequenced for individual 1-IV-6; **e**) Read sequenced for individual 1-IV-8; **f)** Read sequenced for individual 1-IV-9; **g-h**) Reads sequenced for individual 1-IV-11; **i**) Read sequenced for individual 2-IV-16. **j-m**) Reads obtained for individual 2-IV-9 shown without any modification. The parts with other repeated motifs contained within these sequences likely correspond to basecalling errors. The part highlighted in blue maps to chromosome Xp22.3.