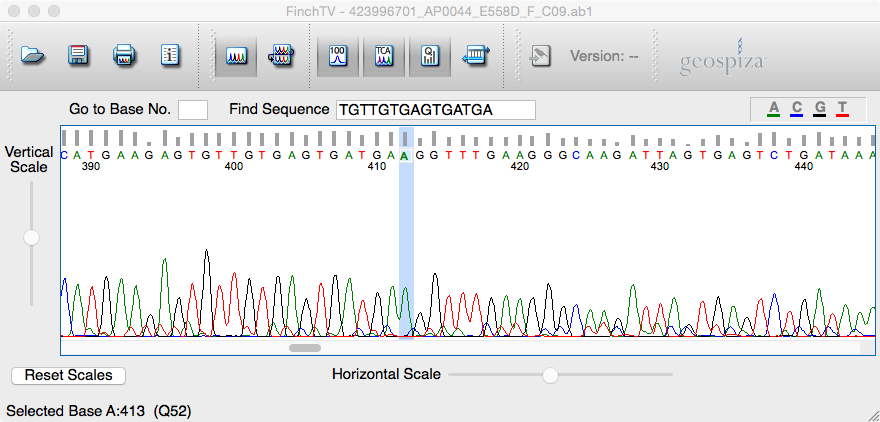
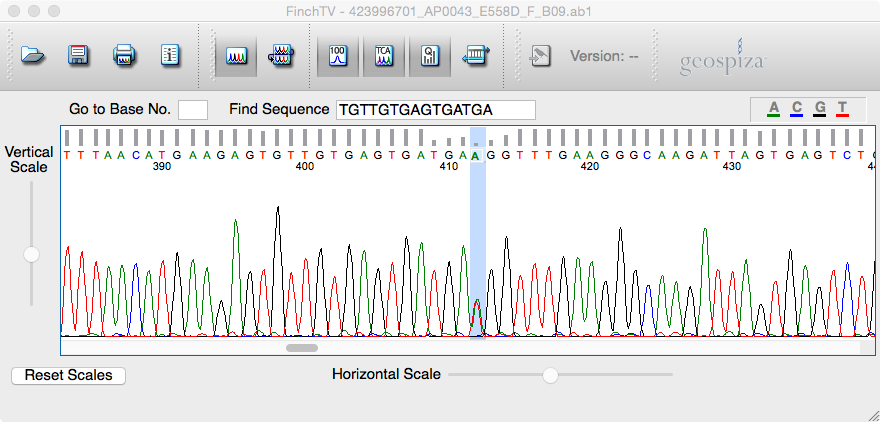
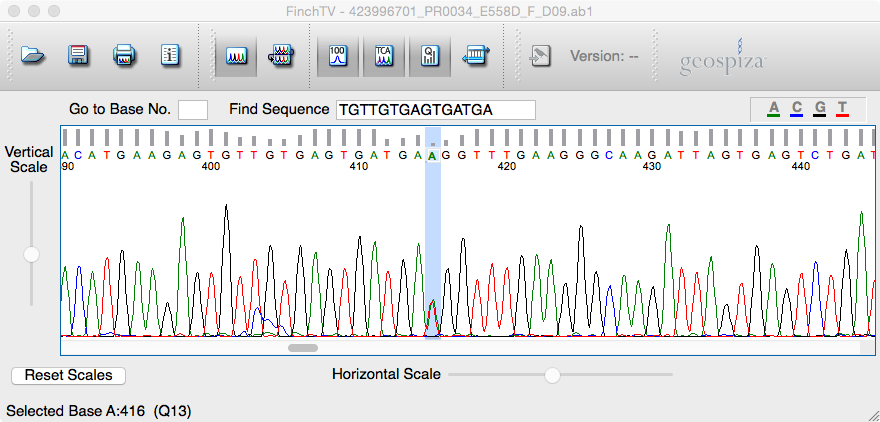
**Additional file 4**

**Figure S4A-F.** Sanger traces of each of the four variants of interest found across six pedigrees. Genotypic state was confirmed in all available family members.

**Figure S4A. Sanger trace for Pedigree 34**



Mother

Homozygous reference

Father

Heterozygous

Proband

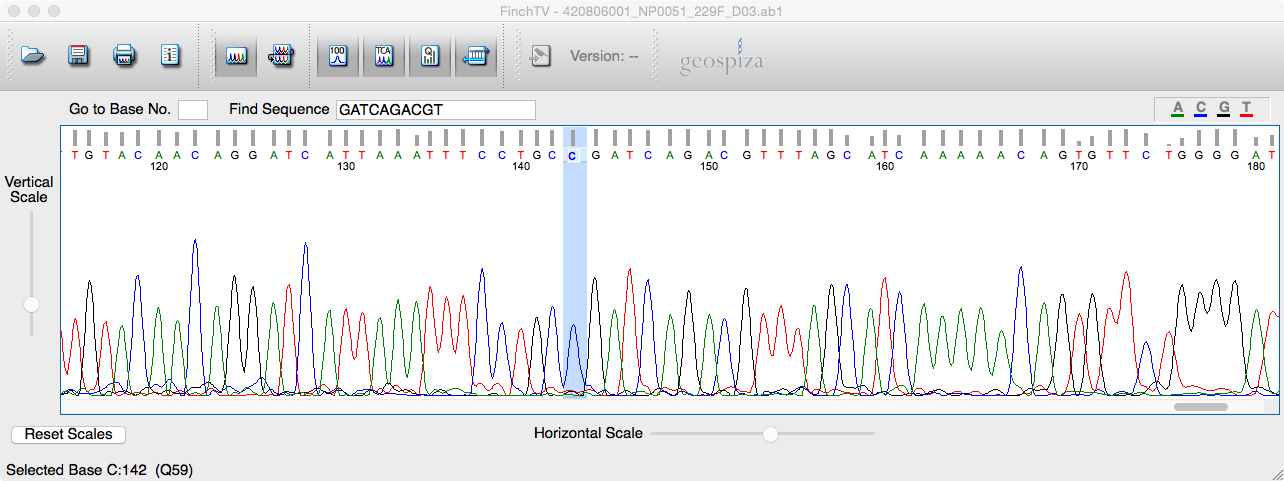
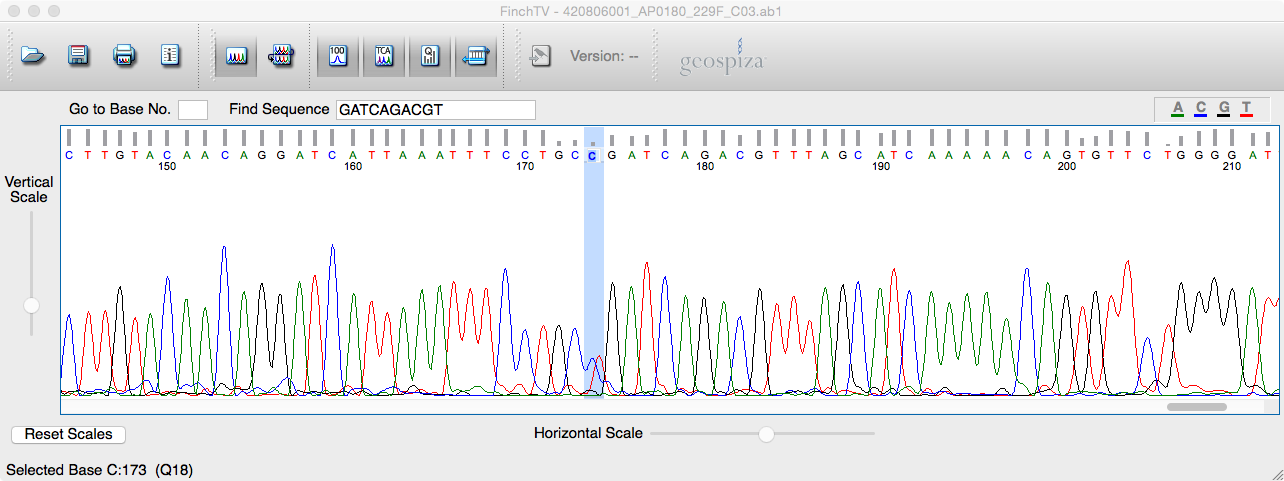
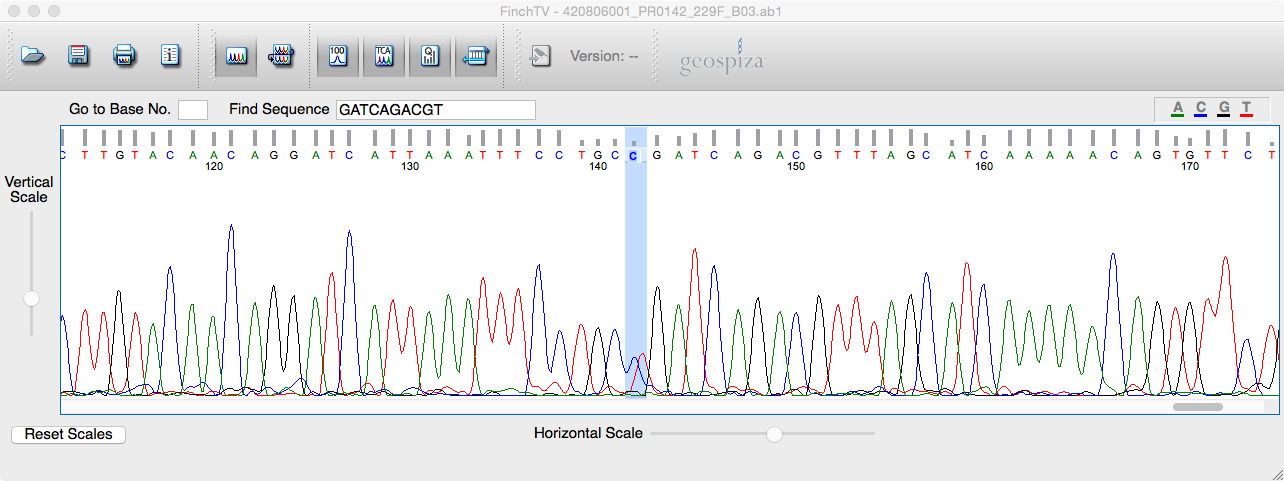
Heterozygous

Variant: HSPA1L:NM\_005527:exon2:c.A1674T:p.Glu558Asp

Primers used: Forward ACTGCCCTGATAAAGCGCAA; Reverse GGGGCCTAGTTTTCCTGAGTC

Heterozygous status in proband and father (unaffected)

**Figure S4B. Sanger trace for Pedigree 142**



Mother

Homozygous reference

Father

Heterozygous

Proband

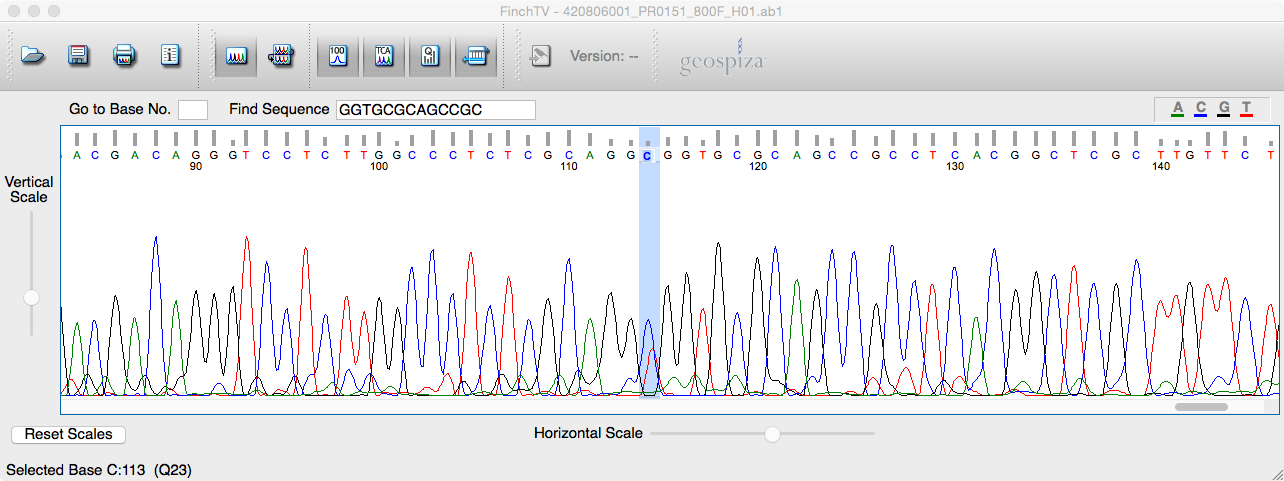
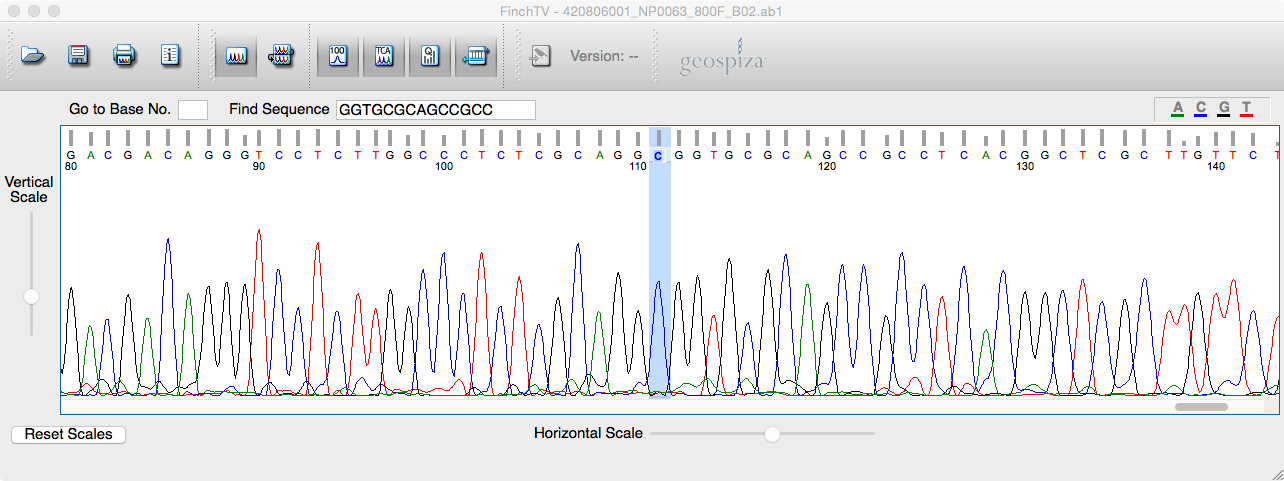
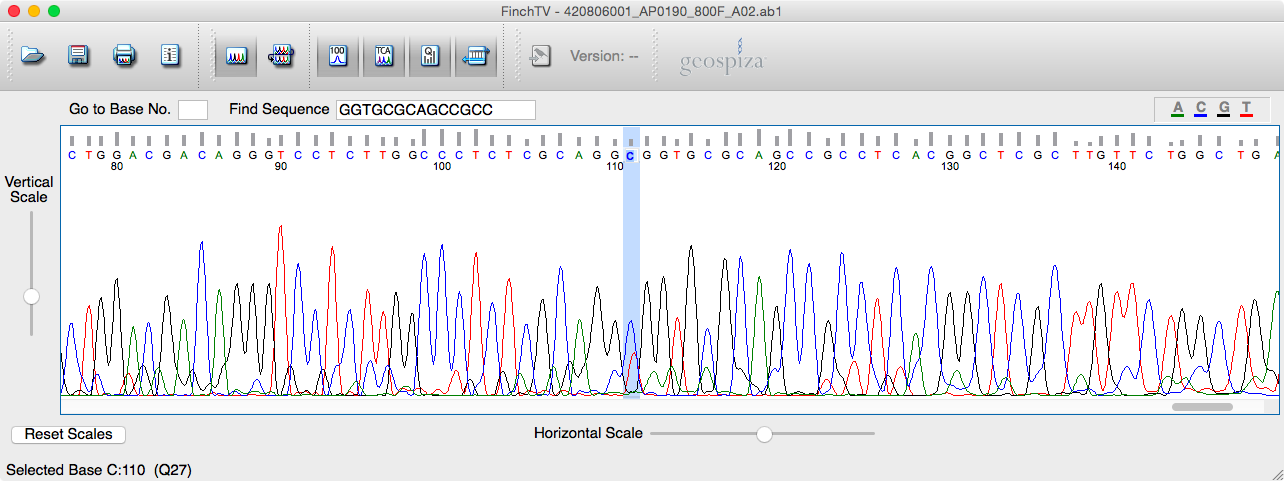
Heterozygous

Variant: HSPA1L:NM\_005527:exon2:c.G229A:p.Gly77Ser

Primers used: Forward TTGACAACAGGCTTGTGAGC; Reverse AAATCGAGCTCTGGTGATGG

Heterozygous status in proband and father (unaffected)

**Figure S4C. Sanger trace for Pedigree 151**

Proband

Heterozygous

Father

Homozygous reference

Mother

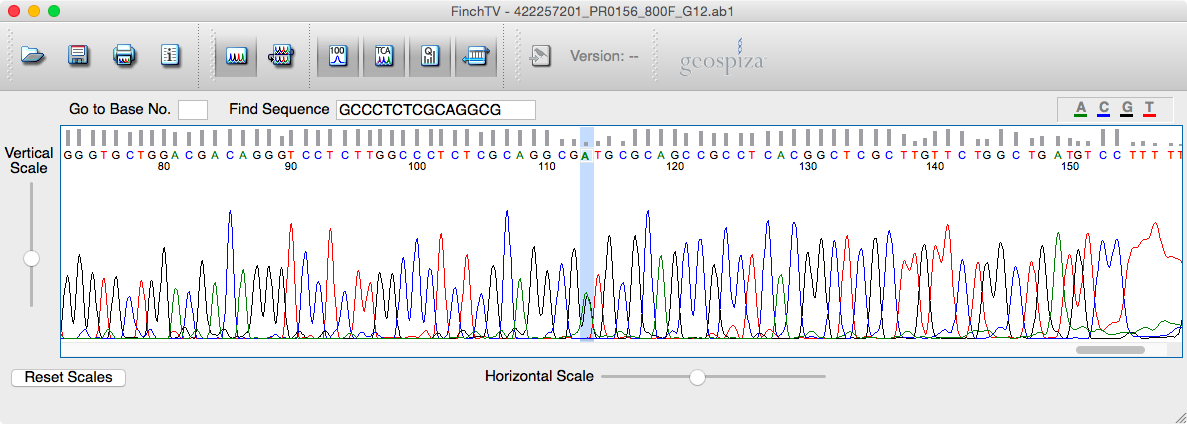
Heterozygous

Variant :HSPA1L:NM\_005527:exon2:c.G802A:p.Ala268Thr

Primers used: Forward TTGACAACAGGCTTGTGAGC; Reverse AAATCGAGCTCTGGTGATGG

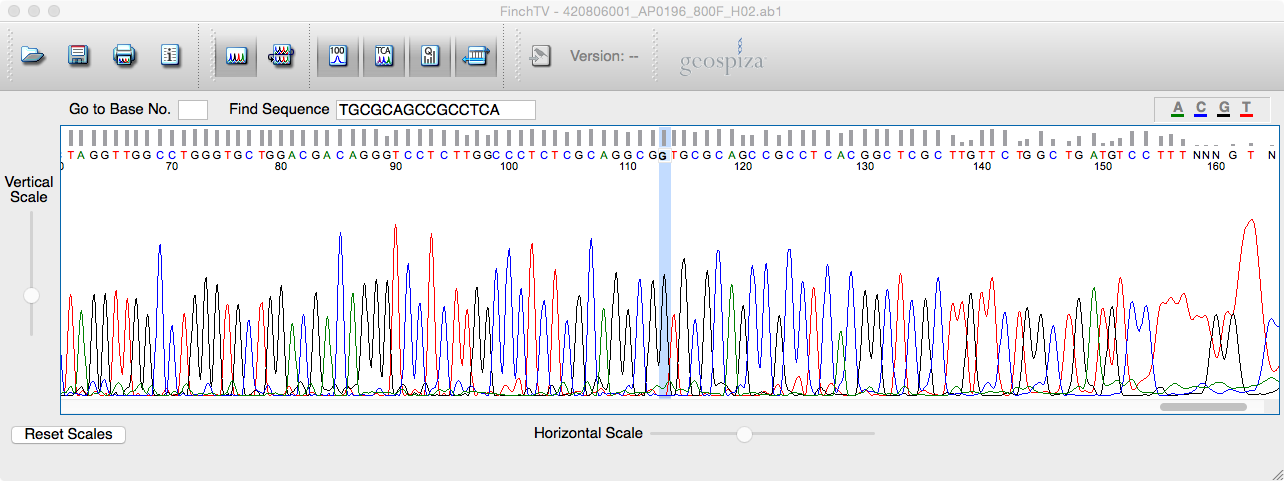
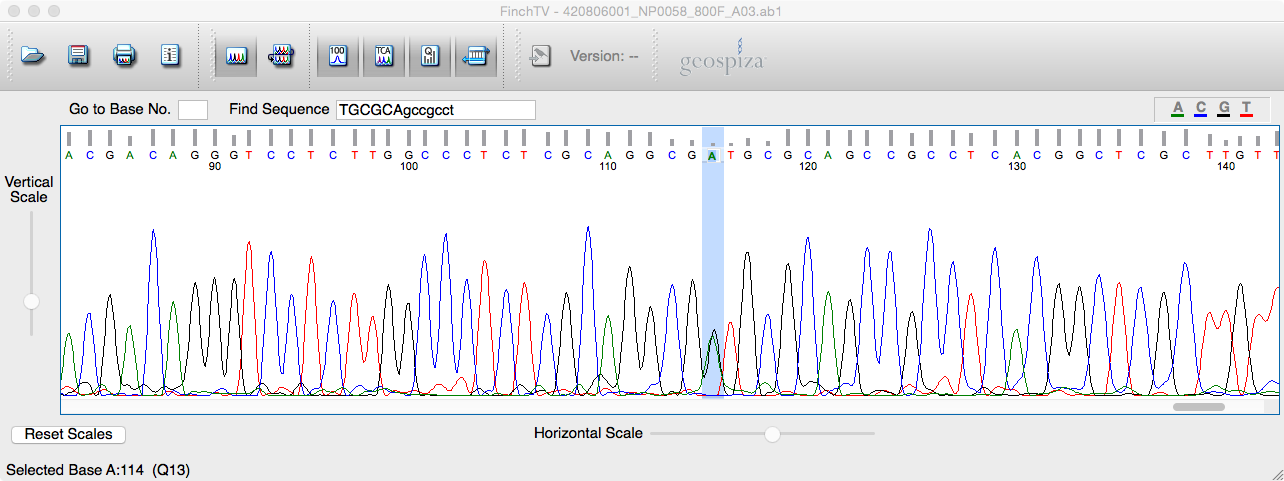
Heterozygous status in proband and mother (unaffected)

**Figure S4D. Sanger trace for Pedigree 156**



Proband

Heterozygous

Mother

Heterozygous

Father

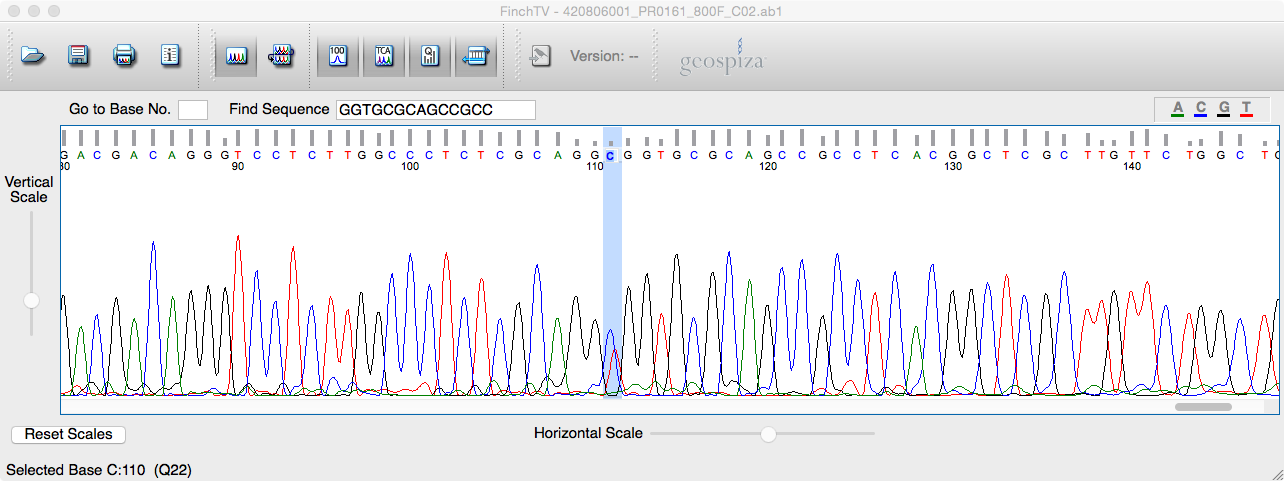
Homozygous reference

Variant: HSPA1L:NM\_005527:exon2:c.C800T:p.Thr267Ile

Primer: Forward TTGACAACAGGCTTGTGAGC; Reverse AAATCGAGCTCTGGTGATGG

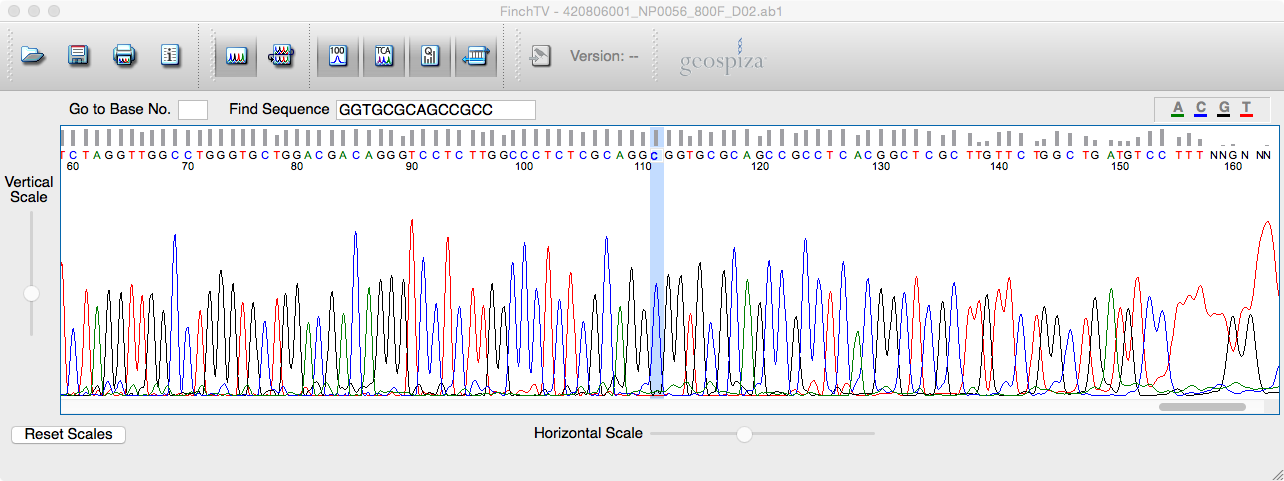
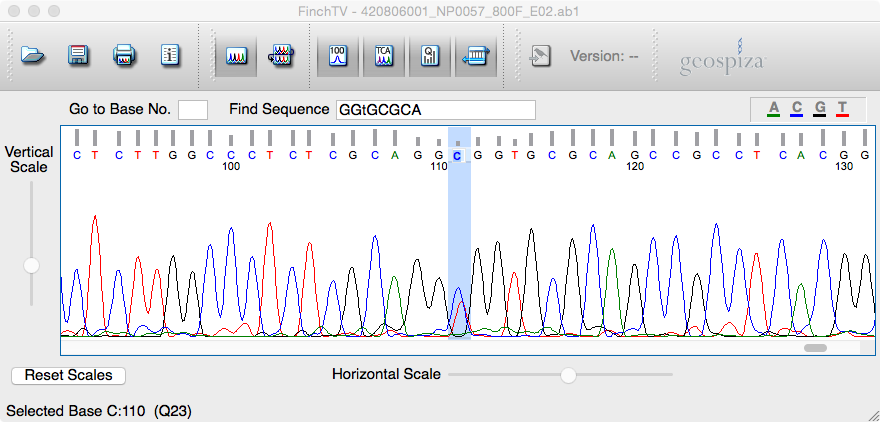
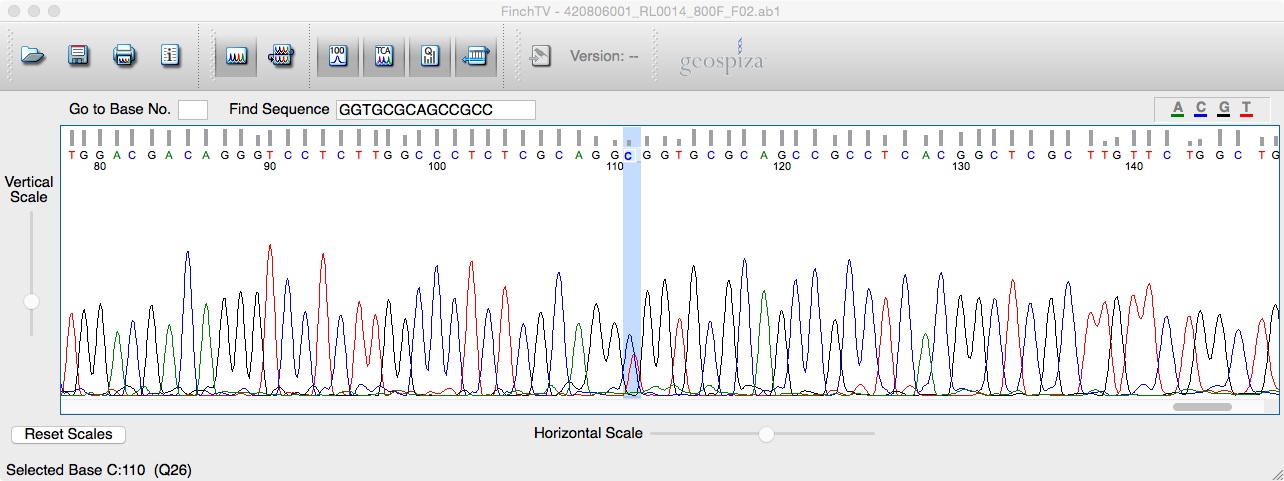
Heterozygous status in proband and mother (unaffected)

**Figure S4E. Sanger trace for Pedigree 161**



Proband

Heterozygous



Mother

Homozygous reference

Father

Heterozygous

Sister

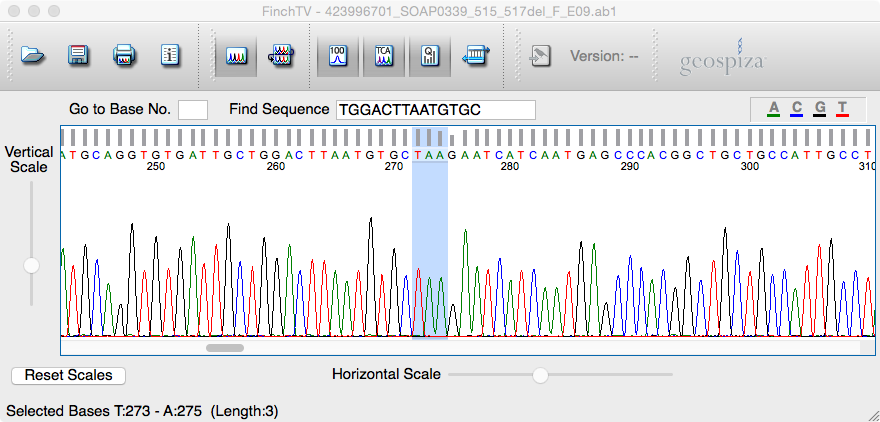
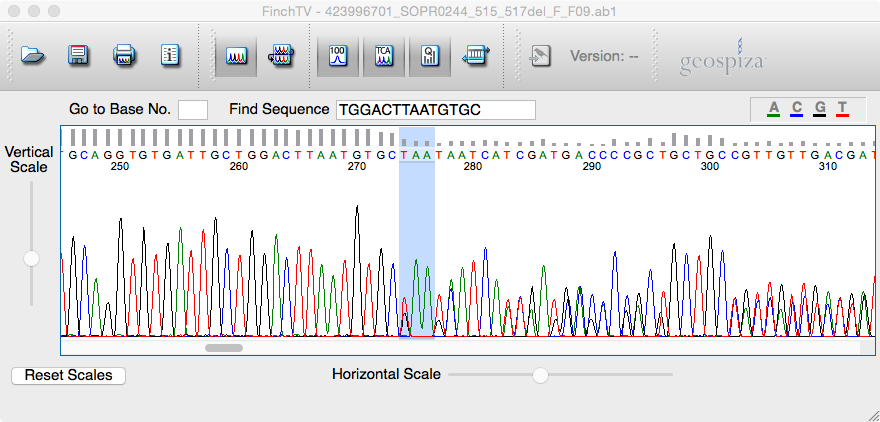
Heterozygous

Variant : HSPA1L:NM\_005527:exon2:c.G802A:p.Ala268Thr

Primers used: Forward TTGACAACAGGCTTGTGAGC; Reverse AAATCGAGCTCTGGTGATGG

Heterozygous status in proband, unaffected father (unaffected) and sister (ulcerative colitis)

**S4F. Sanger trace for Pedigree 244**



Proband

Heterozygous

Mother

Homozygous reference

Variant: HSPA1L:NM\_005527:exon2:c.515\_517del:p.Leu172del

Primers used: Forward ACTGCCCTGATAAAGCGCAA; Reverse GGGGCCTAGTTTTCCTGAGTC

Heterozygous status in proband

**Figure S4G. Pedigree Family A**

**Sanger trace for Family A is shown in Fig. 1A**

Primers used: Forward TAGATGATGGGATTTTTGAGGTA; Reverse CTACTAAAACAATGTCATGGATTTT