

1 **Supplemental Fig. 1 Photos of patient 1 at 10 months, 2 years, and 5 years of age.** Note the  
2 mild dysmorphic features including enophthalmia, long and smooth philtrum, thin upper lip  
3 vermilion, and the prominent chin with horizontal crease.

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5 **Supplemental Fig. 2.** Physical map of the short arm of chromosome 16 (16p13.11p11.2)  
6 according to UCSC Genome Browser (GRCh37/hg19) showing the genomic coordinates, the  
7 genes at the 16p13.11p11.2 region, the BAC probes, and segmental duplications. The BAC  
8 probe RP11-489O1 (red) is proximal to udSD, the BAC probe RP11-152L13 (green) is distal  
9 to BP1, and the BAC probe CTD-2515C15 (blue) is located between BP2 and BP3. OMIM-  
10 morbid genes are depicted in dark green.

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12 **Supplemental Fig. 3 Whole genome sequencing data from patient 1. A.** Wisecondor log<sub>2</sub>  
13 ratios along chromosome 16 for patient 1. Log<sub>2</sub> ratios ranging from -0.4 to +0.4 are plotted in  
14 gray. Log<sub>2</sub> ratios  $\geq 0.4$  are plotted in blue and log<sub>2</sub> ratios  $\leq -0.4$  are plotted in red. The genomic  
15 gain involving the 16p13.11p11.2 locus is clearly detected, as a triplication between the  
16 genomic positions 14.890.000-28.350.000 and as a duplication between the genomic positions  
17 28.480.001-29.050.000 (according to human genome Build GRCh37/hg19). **B.** Allelic  
18 frequencies for SNVs called by GATK Haplotypecaller (version 4) along chromosome 16. The  
19 graph shows at the triplicated locus four bands of SNPs: at BAF (B allele frequency) = 1  
20 (BBBB), at BAF = 0.25 (genotype BAAA), at BAF=0.5 (genotype BBAA), and at BAF=0.75  
21 (genotype BBBA). Positions with 0% of alternative allele, BAF=0 (AAAA) are not called.