LINE1-mediated epigenetic repression of androgen receptor transcription causes androgen insensitivity syndrome

Supplementary Information



Supplementary Figure 1. Segregation of the L1 insertion in the family. (A) pedigree showing the patient (46,XY but raised as a girl), the unaffected mother (carrier) and her family. (B) PCR on blood DNA from the patient (396bp), different maternal family members and healthy controls (314bp).



Supplementary Figure 2. Genetic analysis in patient-derived cells. (A) long-range PCR showing an estimated length of the L1 insertion in patient-derived cells, as compared to wild type bands in two healthy controls. (B) experimental design of Cas9-mediated target enrichment, showing target locations of gRNAs upstream and downstream of the region of interest (ROI), along with genomic coordinates in the hg38 assembly.

Supplementary File 1

CATGTGCACATTGTGCAGGTTAGTTACATATGTATACATGTGCCATGCTGGTGCACTGCACCCACTAATGTGTC ATCTAGCATTAGGTATATCTCCCAATGCTATCCCTCCCCCCCGACCCCACAGTCCCCAGAGTGTGAT TTGTTCTTGCGATAGGTTACTGAGAATGATGGTTTCCAATTTCATCCATGTCCCTACAAAGGATATGAACTCAT CATTTTTTATGGCTGCATAGTATTCCATGGTGTATATGTGCCACATTTTCTTAATCCAGTCTATCATTGTTGGGC ATTTGGGTTGGTTCCAAGTCTTTGCTATTGTGAATAGTGCCGCAATAAACATACGTGTGCATGTGTCTTTATAG CAGCATGATTTATACTCATTTGGGTATATACCCAGTAATGGGATGGCTGGGTCAAATGGTATTTCTAGTTCTAG ATCCCTGAGGAATCGCCACACTGACTTCCACAATGGTTGAACTAGTTTACAGTCCCACCAACAGTGTAAAAGT GTTCCTATTTCTCCGCATCCTCCAGCACCTGTTGTTTCCTGACTTTTTAATGATTGCCATTCTAACTGGTGTGA GATGATATCTCATAGTGGTTTTGATTTGCATTTCTCTGATGGCCAGTGATGATGAGCATTTCTTCATGTGTTTTT TTTTCTTGTAAATTTGTTTGAGTTCATTGTAGATTCTGGATATTAGCCCCTTTGTCAGATGAGTAGGTTGCAAAA ATTTTCTCCCATGTTGTAGGTTGCCTGTTCACTCTGATGGTAGTTTCTTTTGCTGTGCAGAAGCTCTTTAGTTTA ATTAGATCCCATTTGTCAATTTTGTCTTTTGTTGCCATTGCTTTTGGTGTTTTGGACATGAAGTCCTTGCCCACGC CTATGTCCTGAATGGTAATGCCTAGGTTTTCTTCTAGGGTTTTTATGGTTTTAGGTTTAACGTTTAAATCTTTAA TCCATCTTGAATTGATTTTTGTATAAGGTGTAAGGAAGGGATCCAGTTTCAGCTTTCTACATATGGCTAGCCAG TTTTCCCAGCACCATTTATTAAATAGGGAATCCTTTCCCCATTGCTTGTTTTTCTCAGGTTTGTCAAAGATCAGA TAGTTGTAGATATGCGGCATTATTTCTGAGGGCTCTGTTCTGTTCCATTGATCTATATCTCTGTTTTGGTACCAG TACCATGCTGTTTTGGTTACTGTAGCCTTGTAGTATAGTTTGAAGTCAGGTAGTGTGATGCCTCCAGCTTTGTT CTTTTGGCTTAGGATTGACTTGGCAATGCGGGCTCTTTTTTGGTTCCATATGAACTTTAAAGTAGTTTTTTCCAA TTCTGTGAAGAAAGTCATTGGTAGCTTGATGGGGATGGCATTGAATCTGTAAATTACCTTGGGCAGTATGGCC GAGCAGTGGTTTGTAGTTCTCCTTGAAGAGGTCCTTCACATCCCTTGTAAGTTGGATTCCTAGGTATTTTATTCT CTTTGAAGCAATTGTGAATGGGAGTTCACCCATGATTTGGCTCTCTGTTTGTCTGTTGTTGGTGTATAAGAATG CTTGTGATTTTTGTACATTGATTTTGTATCCTGAGACTTTGCTGAAGTTGCTTATCAGCTTAAGGAGATTTTGGG CTGAGACGATGGGGTTTTCTAGATAAACAATCATGTCGTCTGCAAACAGGGACAATTTGACTTCCTCTTTTCCT AATTGAATACCCTTTATTTCCTTCTCCTGCCTGATTGCCCTGGCCAGAACTTCCAACACTATGTTGAATAGGAGT GGTGAGAGAGGGCATCCCTGTCTTGTGCCGGTTTTCAAAGGGAATGCTTCCAGTTTTTGCCCATTCAGTATGA TATTGGCTGTGGGTTTGTCATAGATAGCTCTTATTATTTTGAAATACATCCCATCAATACCTAATTTATTGAGAG TTTTTAGCATGAAGGGTTGTTGAATTTTGTCAAAGGCTTTTTCTGCATCTATTGAGATAATCATGTGGTTTTTGT CTTTGGCTCTGTTTATATGCTGGATTACATTTATTGATTTGCGTGTATTGAACCAGCCTTGCATCCCAGGGATGA AGCCCACTTGATCATGGTGGATAAGCTTTTTGATGTGCTGCTGGATTCGGTTTGCCAGTATTTTATTGAGGATT TTTGCATCAATGTTCATCAAGGATATTGGTCTAAAATTCTCTTTTTTGGTTGTGTCTCTGCCCGGCTTTGGTATC GAATGGTACCAGTTCCTCCTTGTACCTCTGGTAGAATTCGGCTGTGAATCCATCTGGTCCTGGACTCTTTTTGG TTGGTAAACTATTGATTATTGCCACAATTTCAGAGCCTGTTATTGGTCGATTCAGAGATTCAAACTTCTTCCTGG

Supplementary File 1. Sequence of the L1 insertion obtained from nanopore sequencing. Bases marked in gray represent the genomic DNA sequence proximal to the L1 insertion.

Uncropped images

Western blot image from Figure 1:



Membrane was cut after blotting between 50 kD and 75 kD. The upper part was incubated with the anti-AR antibody F39.4 from Biogenex, the lower part was incubated with the anti-actin antibody from Abcam. Shown are three biological replicates. Dotted lines indicate the selection taken for Figure 1.

Western blot image from Figure 3:



Membrane was cut after blotting between 50 kD and 75 kD. The upper part was incubated with the anti-AR antibody F39.4 from Biogenex, the lower part was incubated with the anti-tubulin antibody from Sigma. Shown are three biological replicates. Dotted lines indicate the selection taken for Figure 3.

Agarose gel images from Supplementary Figure 1 were generated in a diagnostic laboratory according to ISO15189 guidelines.

Agarose gel from Supplementary Figure 2:

