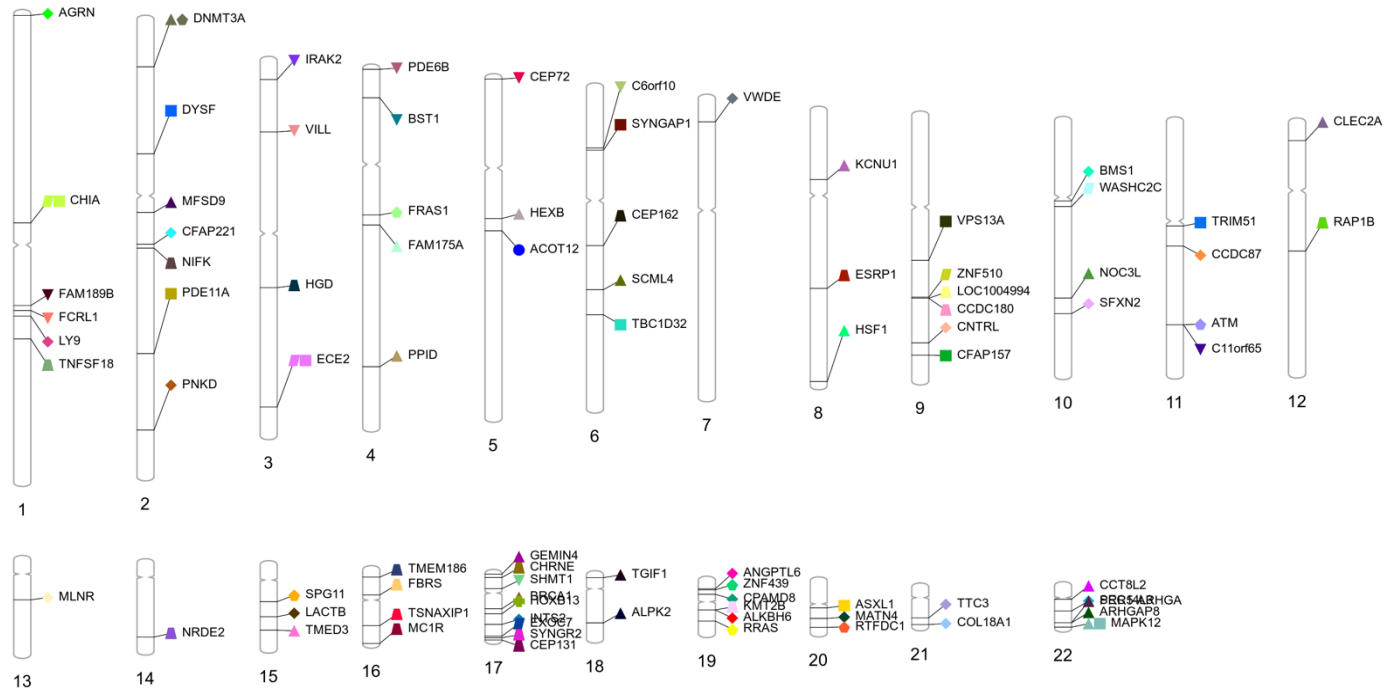


## Supplementary figures

**Supplementary Figure S1.** PhenoGram plot of all significant genes across all cancers (PLP dataset)



○ Breast  
◇ Lung  
⊖ Prostate

◇ Kidney  
▽ Thyroid

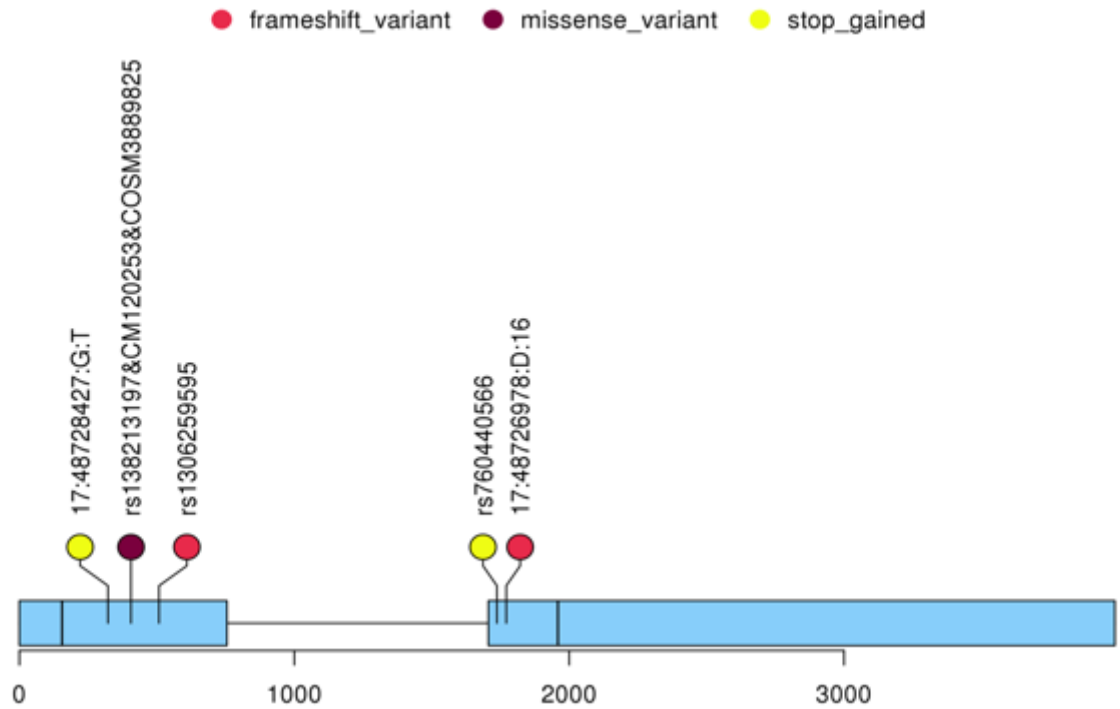
△ Bladder  
△ Uterine

□ Colorectal  
▭ Melanoma

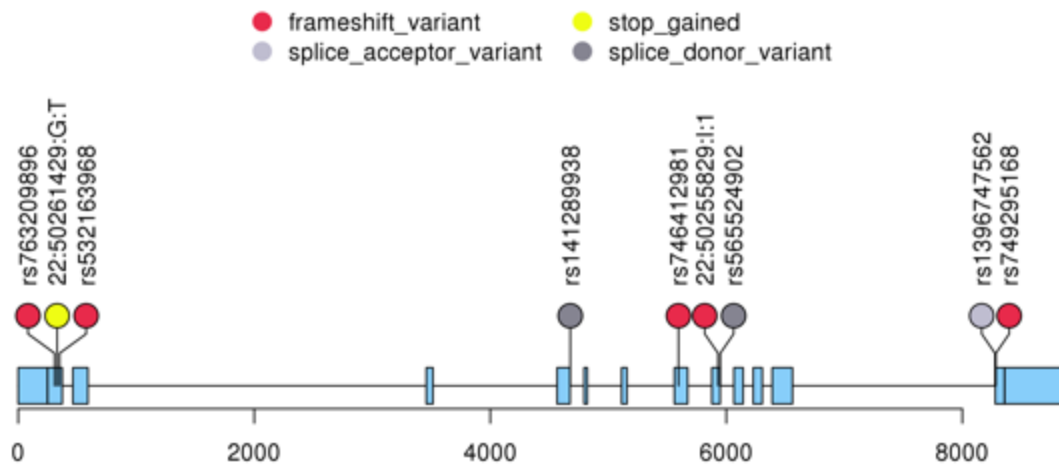
■ ACOT12	■ CHRNE	■ KCNU1	■ SCML4
■ AGRN	■ CLEC2A	■ KMT2B	■ SEC14L3
■ ALKBH6	■ CNTRL	■ LACTB	■ SFXN2
■ ALPK2	■ COL18A1	■ LOC100499484-C9ORF174	■ SHMT1
■ ANGPTL6	■ CPAMD8	■ LY9	■ SPG11
■ ARHGAP8	■ DNMT3A	■ MAPK12	■ SYNGAP1
■ ASXL1	■ DYSF	■ MATN4	■ SYNGR2
■ ATM	■ ECE2	■ MC1R	■ TBC1D32
■ BMS1	■ ESRP1	■ MLNR	■ TGIF1
■ BRCA1	■ EXOC7	■ NRDE2	■ TMED3
■ BST1	■ FAM175A	■ PDE11A	■ TMEM186
■ C11orf65	■ FAM189B	■ PNKD	■ TNFSF18
■ C6orf10	■ FBR	■ PPR5-ARHGAP8	■ TRIM51
■ CCDC180	■ FCRL1	■ PRR5-ARHGAP8	■ TSNAXIP1
■ CCDC87	■ FRAS1	■ RRAS	■ TTC3
■ CCT8L2	■ GEMIN4	■ RTFDC1	■ VILL
■ CEP131	■ HEXB		■ VPS13A
■ CEP162	■ HGD		■ VWDE
■ CEP72	■ HOXB13		■ WASHC2C
■ CFAP157	■ HSF1		■ ZNF439
■ CFAP221	■ INTS2		■ ZNF510
■ CHIA	■ IRAK2		

**Supplementary Figure S2.** Lollipop plot of genes with all loci binned in them. The color represents different types of variants as assonated by VEP. A. Lollipop plot for *HOXB13* gene; B. Lollipop plot for *MAPK12* gene; C. Lollipop plot for *ECE2* gene.

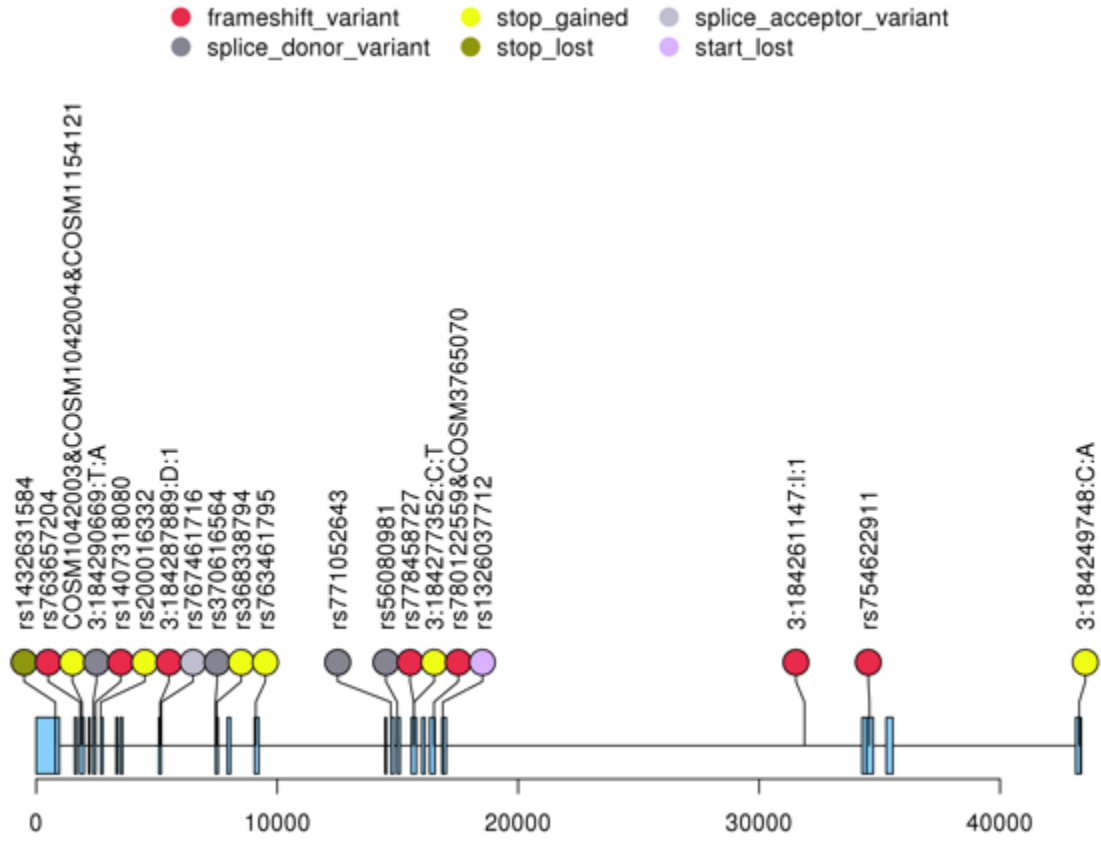
A.



B.

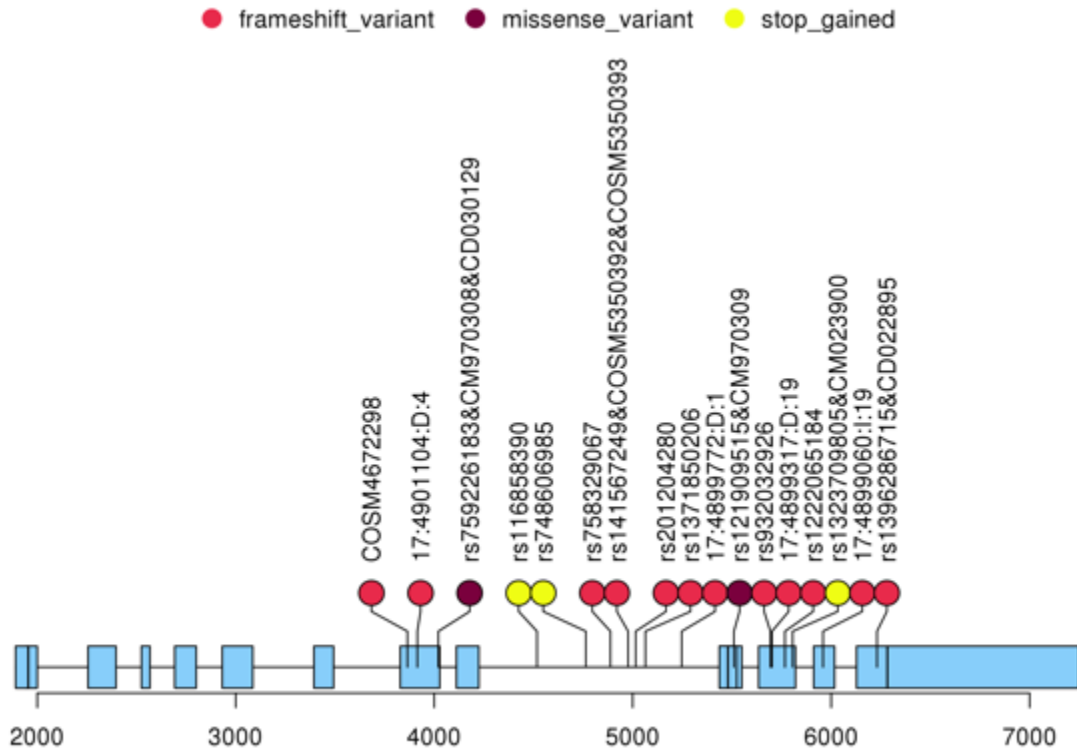


C.

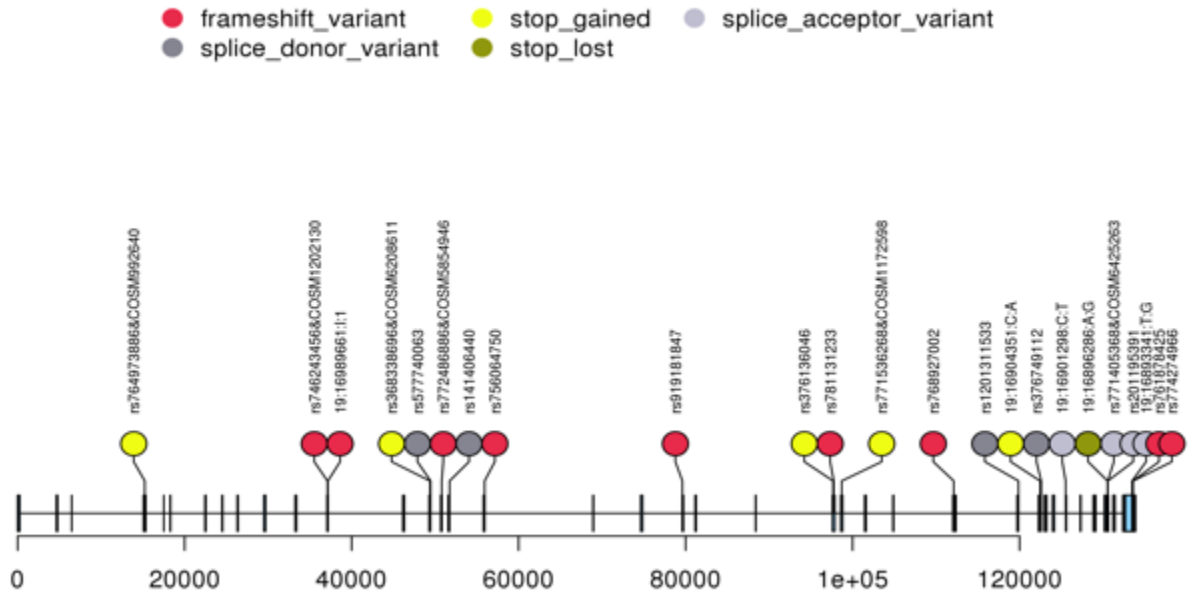


**Supplementary Figure S3.** Lollipop plots of significant genes that were replicated at suggestive threshold (p-value < 0.05)

1. *CHRNE*

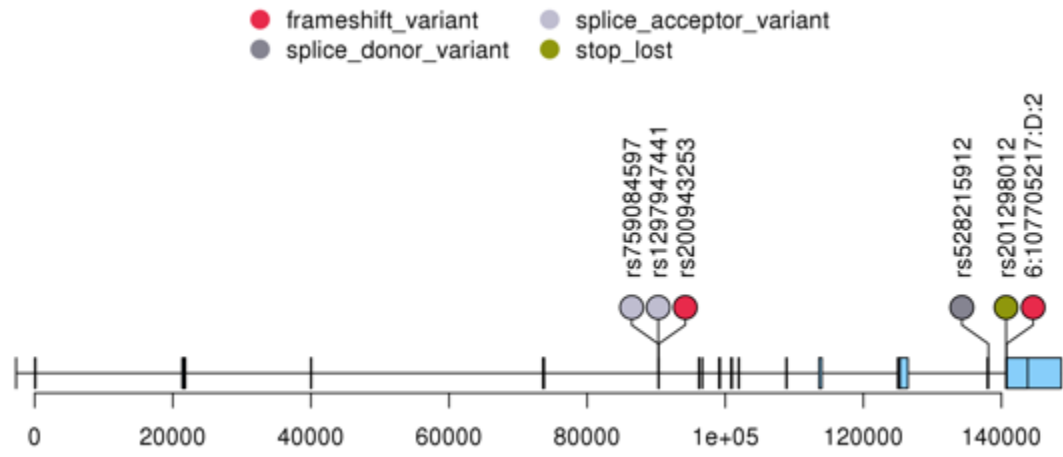


2. *CPAMD8*





5. SCML4



6. TMEM186

