Transcription Factor-Centric Approach to Identify Non-Recurring Regulatory Driver Mutations in Cancer

1. SUPPLEMENTAL FIGURES

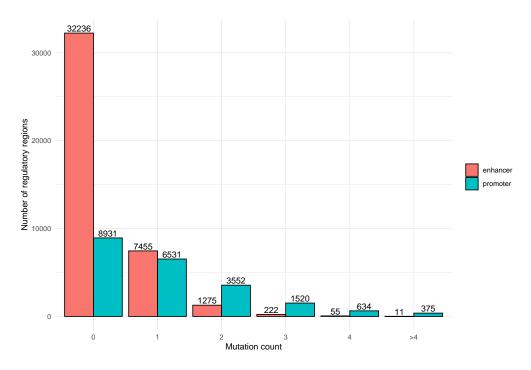


Fig. S1. Number of mutations in each regulatory region. The average mutation rate is $3.6x10^{-6}$ in enhancers and $2.1x10^{-6}$ in promoters.

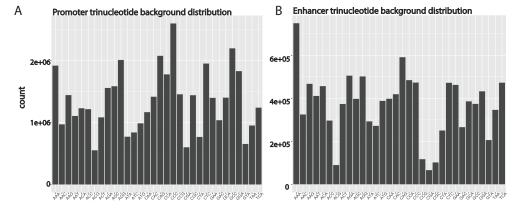


Fig. S2. The number of trinucleotide mutations in promoters (A) and enhancers (B).

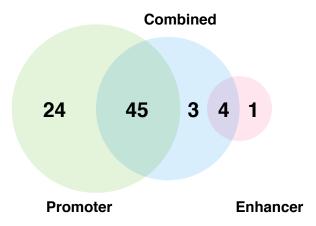


Fig. S3. Number of prioritized genes in the promoter (green), combined (blue), and enhancer (pink) analyses.

Prioritized genes p-values in promoter-only vs combined analyses prioritized genes Mutated elements enhancers and promoters in both analyses promoter-only promoters only prioritized genes = 0.28-log(p promoter) combined prioritized genes 5 -5 10 15 -log(p combined)

Fig. S4. Negative log p-values between genes in the promoter (y-axis) versus combined (x-axis) analyses. Only genes exist in the two analyses are used. The R^2 shows correlation for genes with mutations in both promoters and enhancers.

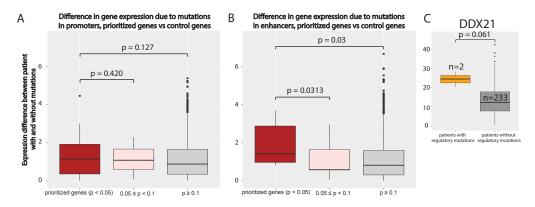


Fig. S5. Gene expression differences between patients with and without the gene regulatory mutations between prioritized genes ($p \le 0.05$) compared to intermediate ($0.05 \le p \le 0.1$) and control ($p \ge 0.1$) genes. (A) Promoter-only analysis (B) Enhanceronly analysis. (C) Only one gene (DDX21) that is in the promoter-only analysis but not included in the combined analysis, has significant expression difference.