

Operon Promoter Landscape

Operon	Strand	Operon start	Operon end
nudE	-	3524171	3523611

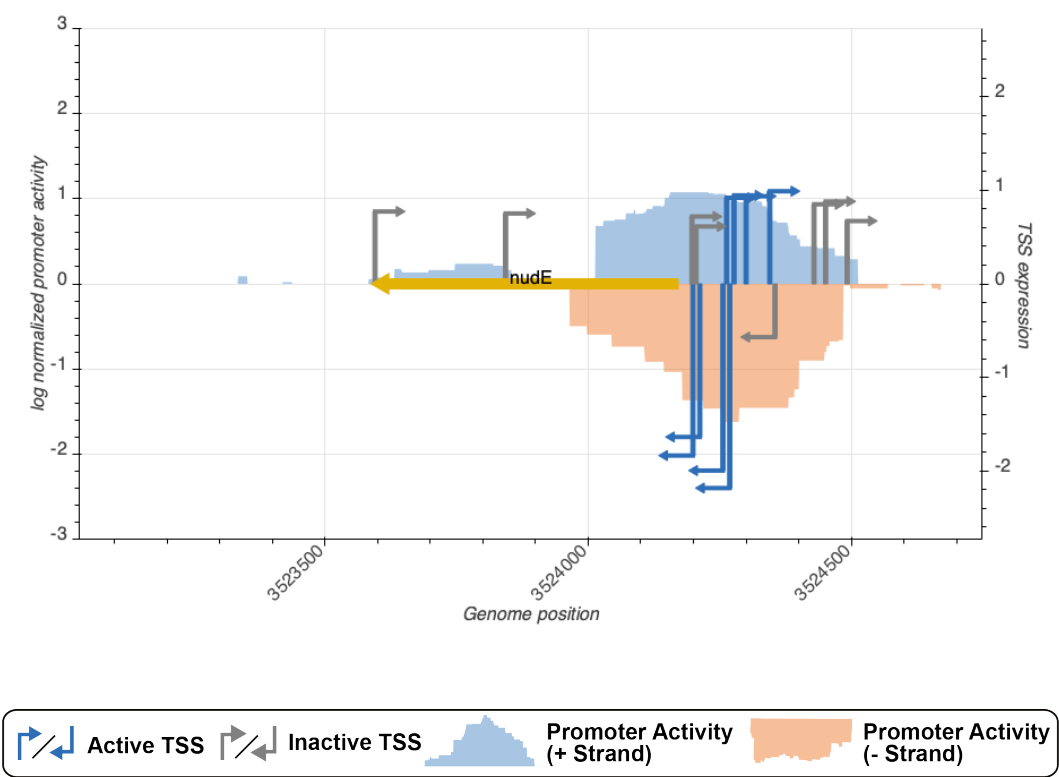


Figure 1: **Promoter activity in rich media (LB) surrounding query operon.** 17,767 previously reported TSSs were evaluated by measuring the promoter activity (right Y-axis) of the 150 bp surrounding the TSS (-120 to +30) to determine which were active or inactive. The genome-wide promoter activity (left Y-axis) was determined by measuring expression of over 300,000 genomic fragments spanning the *E. coli* genome and averaging promoter activity at all nucleotide positions in a strand-specific fashion. Genome coordinates corresponds to *E. coli* genome version U00096.2.

TSS Summary

TSS name	TSS position	Strand	TSS activity	Category
TSS_13631_storz	3524195	-	1.8379070	active
TSS_13633_regulondb	3524208	-	1.6388487	active
TSS_13632_storz	3524201	+	0.6143038	inactive
TSS_13637_storz	3524273	+	0.9463370	active
TSS_13634_storz	3524252	-	1.9983962	active
TSS_13640_regulondb	3524351	-	0.5698878	inactive
TSS_13630_storz	3524193	+	0.7203716	inactive
TSS_13639_regulondb	3524341	+	0.9914414	active
TSS_13641_regulondb	3524425	+	0.8510136	inactive
TSS_13635_storz	3524259	+	0.9208536	active
TSS_13642_regulondb	3524447	+	0.8814776	inactive
TSS_13636_storz_regulondb	3524265	-	2.1858292	active
TSS_13638_regulondb	3524296	+	0.9378425	active
TSS_13643_storz	3524488	+	0.6724295	inactive

TSS Scanning Mutagenesis

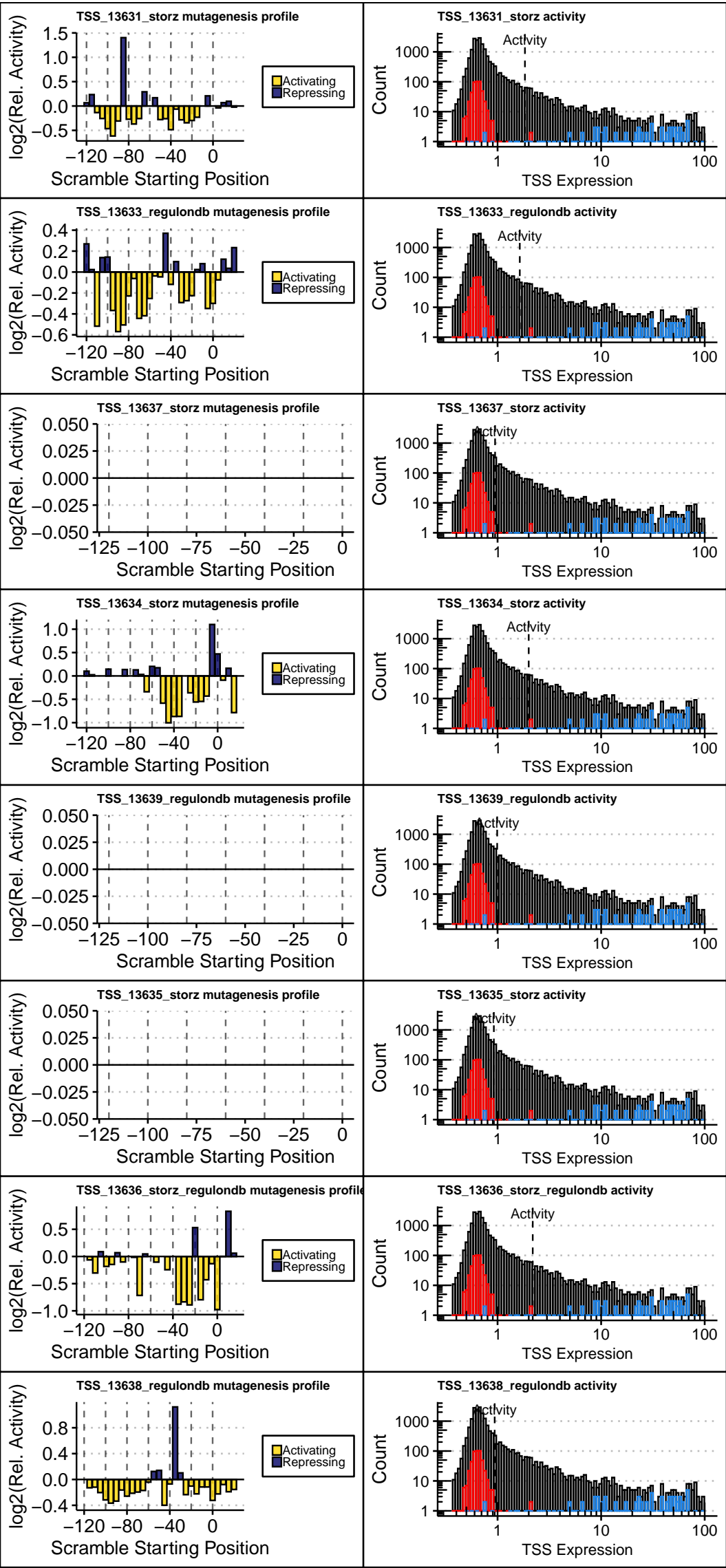


Figure 2: **(Left)** Mutagenesis profile(s) of active TSS(s). Sequences surrounding active TSSs were systematically mutated to identify regions controlling expression. Bar height indicates the relative change in promoter activity as a result of scrambling nucleotides within 10 bp regions at 5 bp intervals spanning the promoter. Bar color identifies the region as a putative activator (yellow) or repressor (purple). **(Right)** Dashed line indicates the expression of the indicated TSS relative to all tested TSS sequences. The distributions of expression is shown for all tested TSSs (black), 500 negative controls (red), and a set of constitutive promoters from the BioBrick registry (blue).