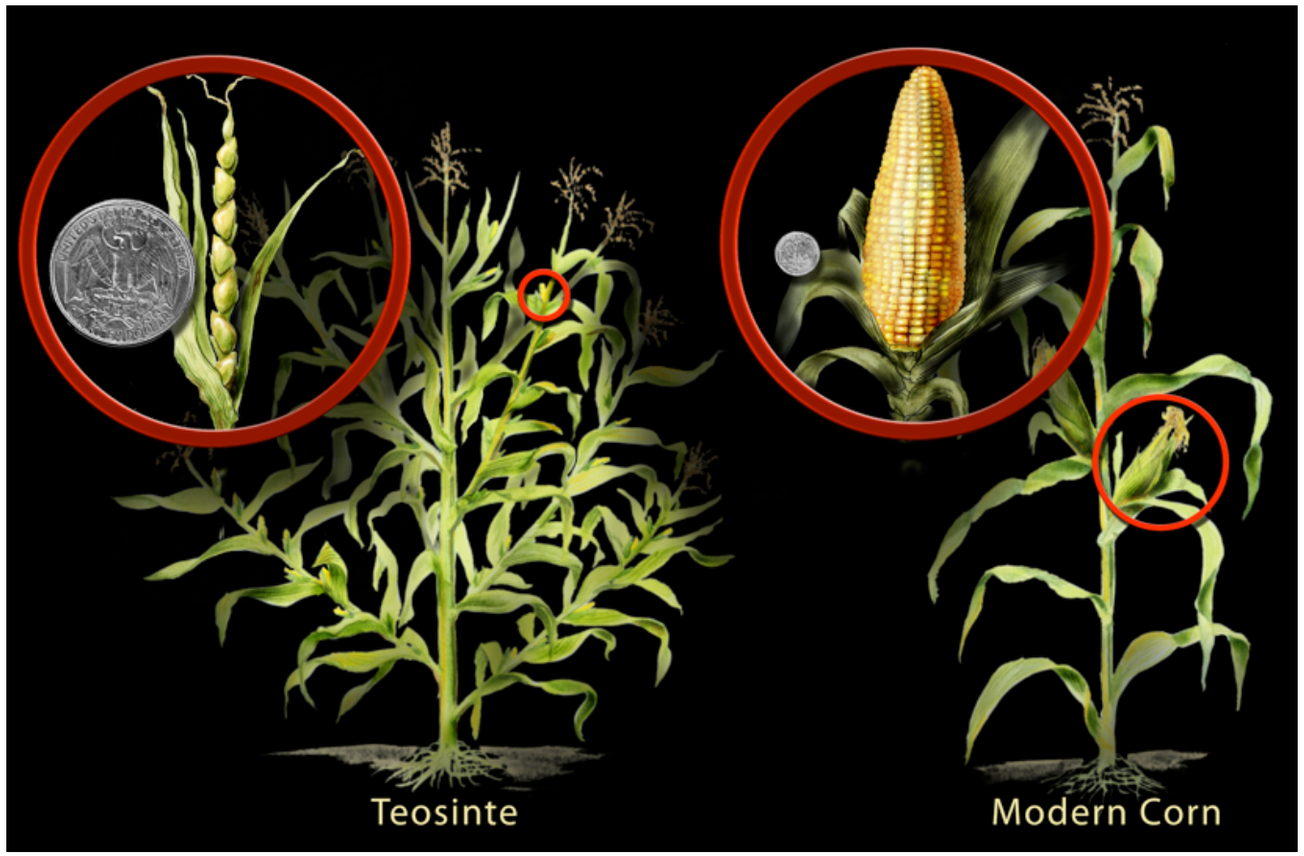

Teosinte
Modern Corn

Gene Action

many tillers

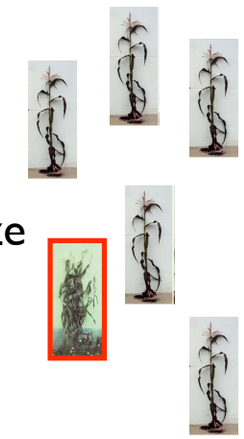
X

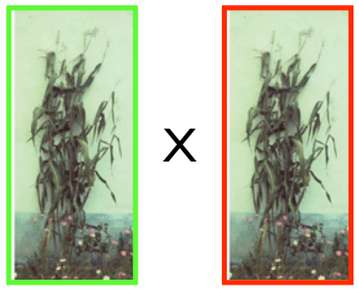
none

F1: 100% some tillers

Mutagenize

mutatagenize TEs, self





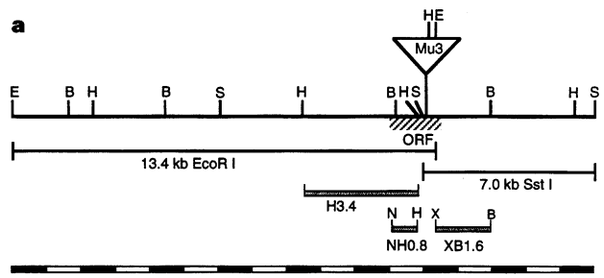
original mutant

X

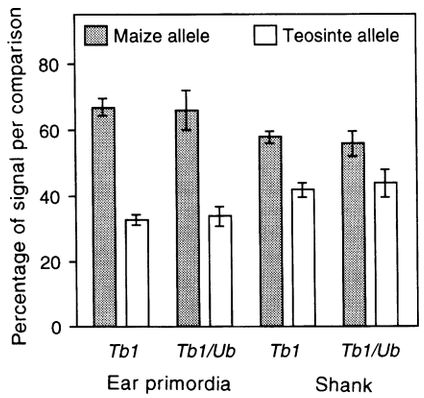
TE mutant

↓

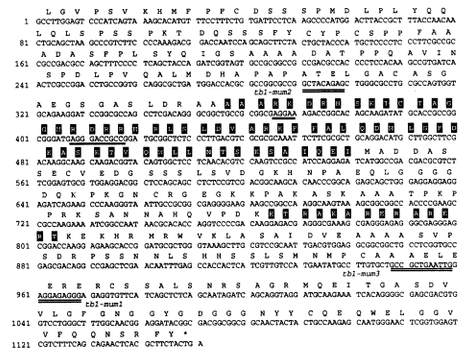
F1: 100% many tillers



mapped TE to tb1 gene

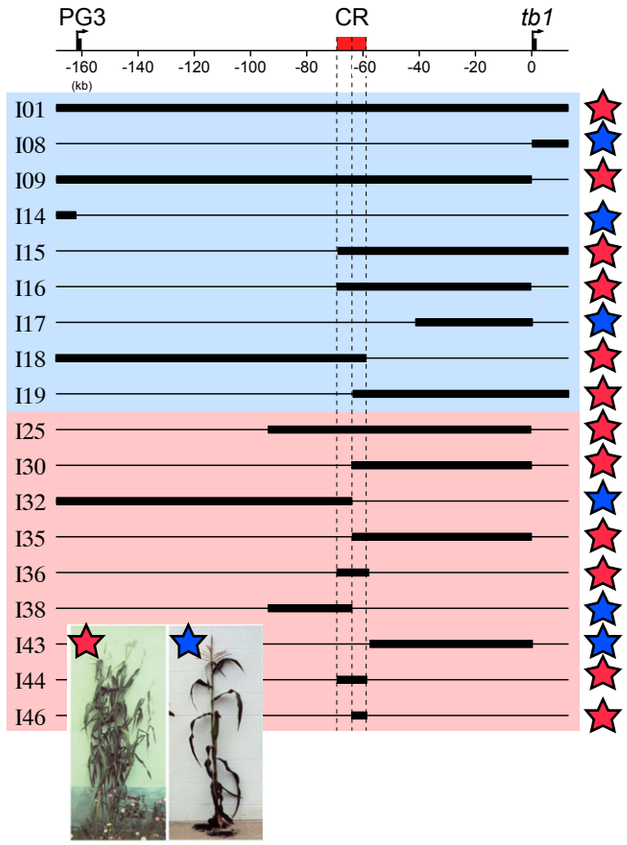


maize allele has higher expression



but no difference in coding sequence

Fine mapping the causative region



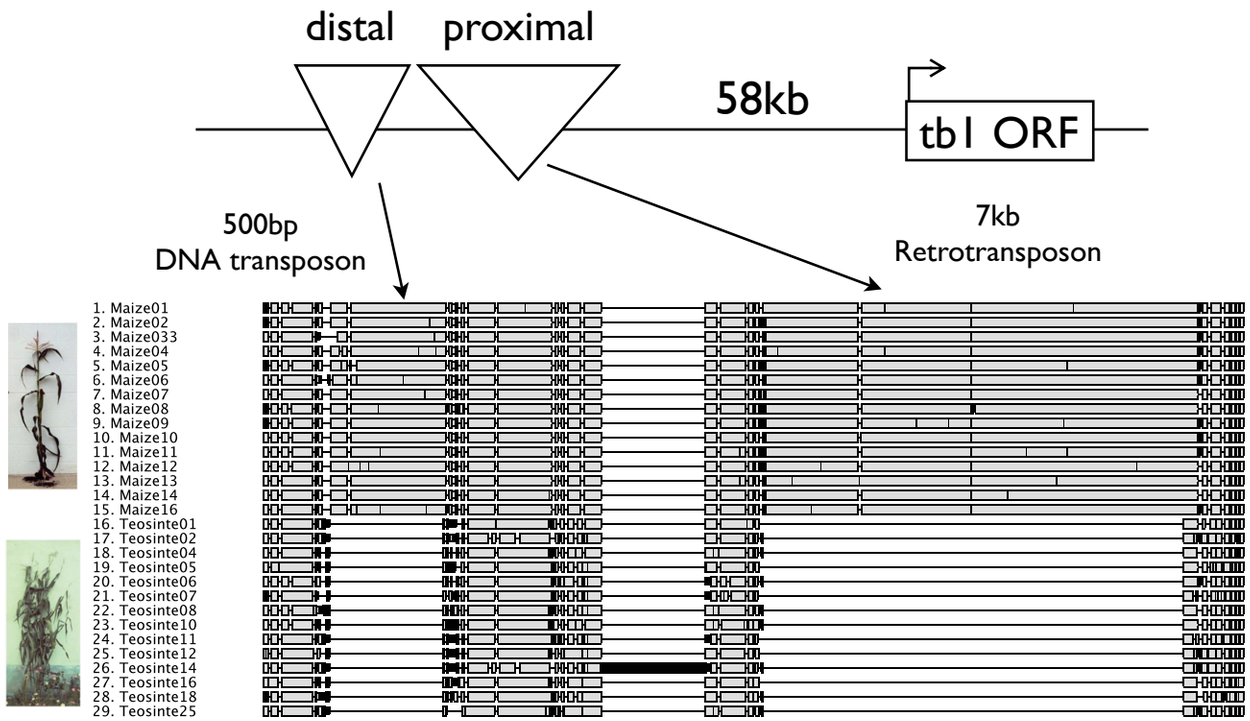
M x T

M x F1

M x BC1

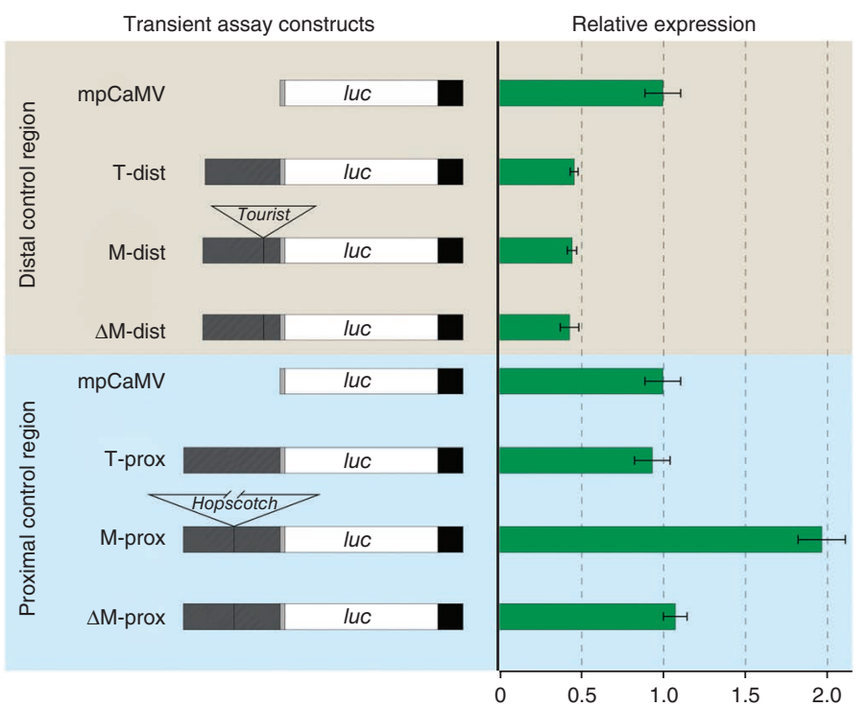
M x BC2

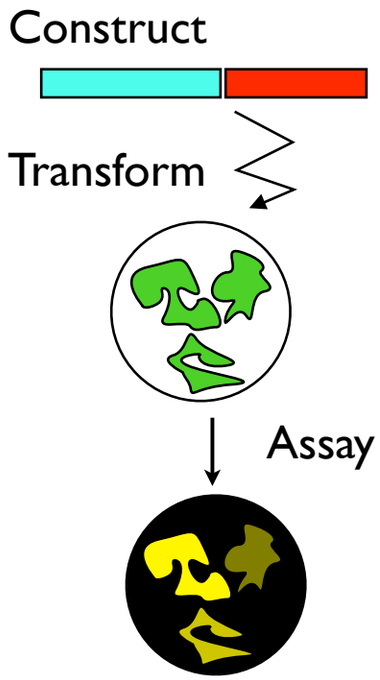
BC3

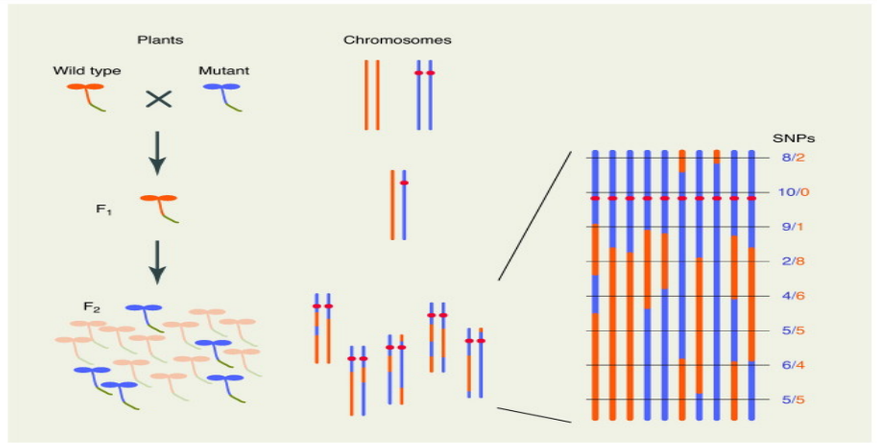


- DNA sequence identifies fixed differences

- Transient assay (enhancer bashing) to ID functional region






Plants
Wild type
Mutant
F1
F2
Chromosomes
SNPs
8/2
10/0
9/1
2/8
4/6
5/5
6/4
5/5
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