

Systems Biology

Plant Science and Technology

Crop Genetics and Breeding

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Negative feedback buffers effects of regulatory variants

Molecular Systems Biology

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Introduction

Importance

Regulatory genetic variants play a major role in phenotypic variation and evolution.

Regulatory variants

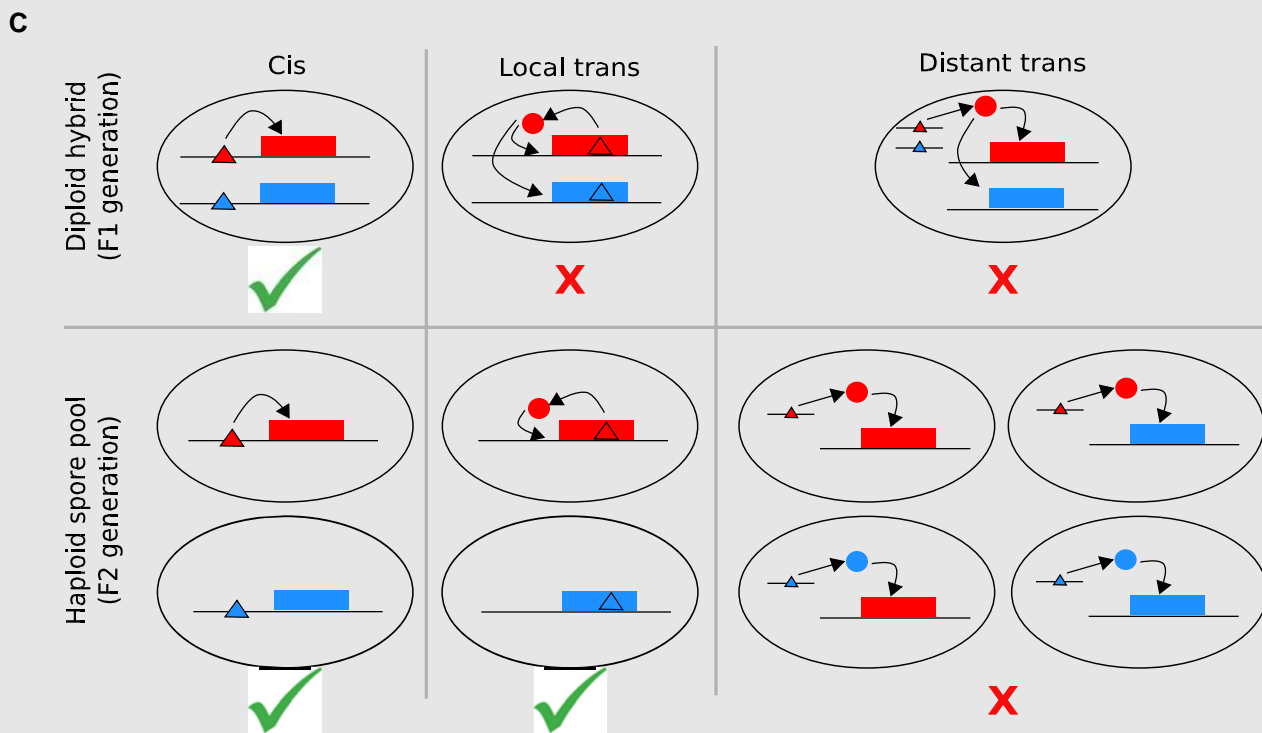
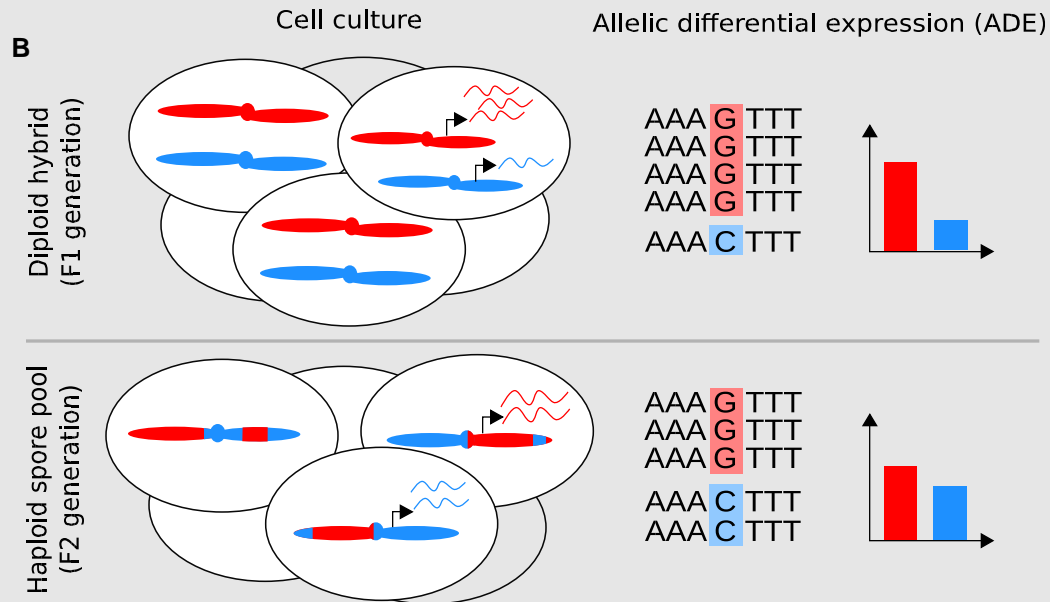
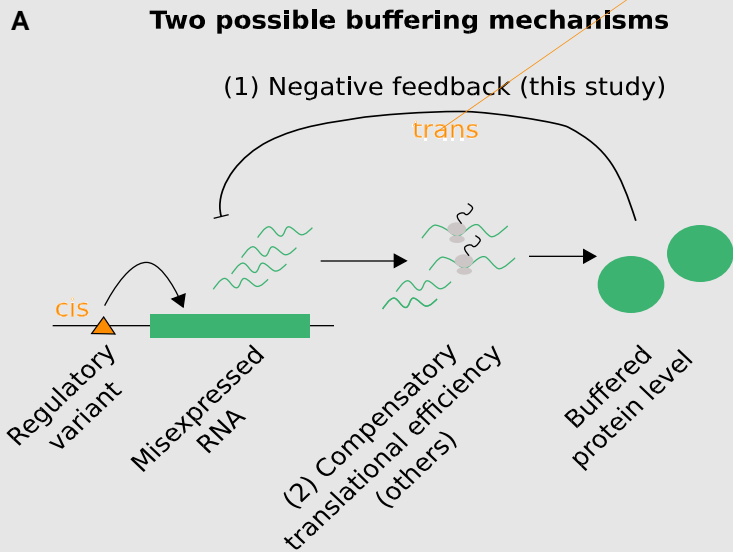
Most genetic variants are non-coding and they are the major driver of speciation.

Background

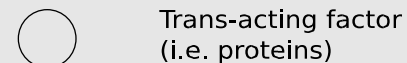
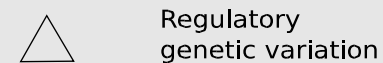
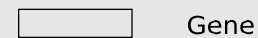
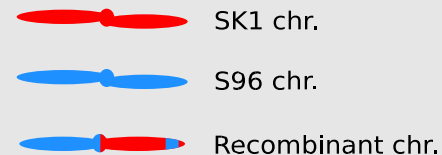
Recently, two studies have assessed the role of translation in buffering variations in RNA expression

Research target

Indicate that negative feedback plays an important role in buffering regulatory consequences of genetic variants



Legend



Materials and Methods

Yeast strains (QTL)

DNA Sequencing

Transcriptome profiling

Genotyping and allele frequencies

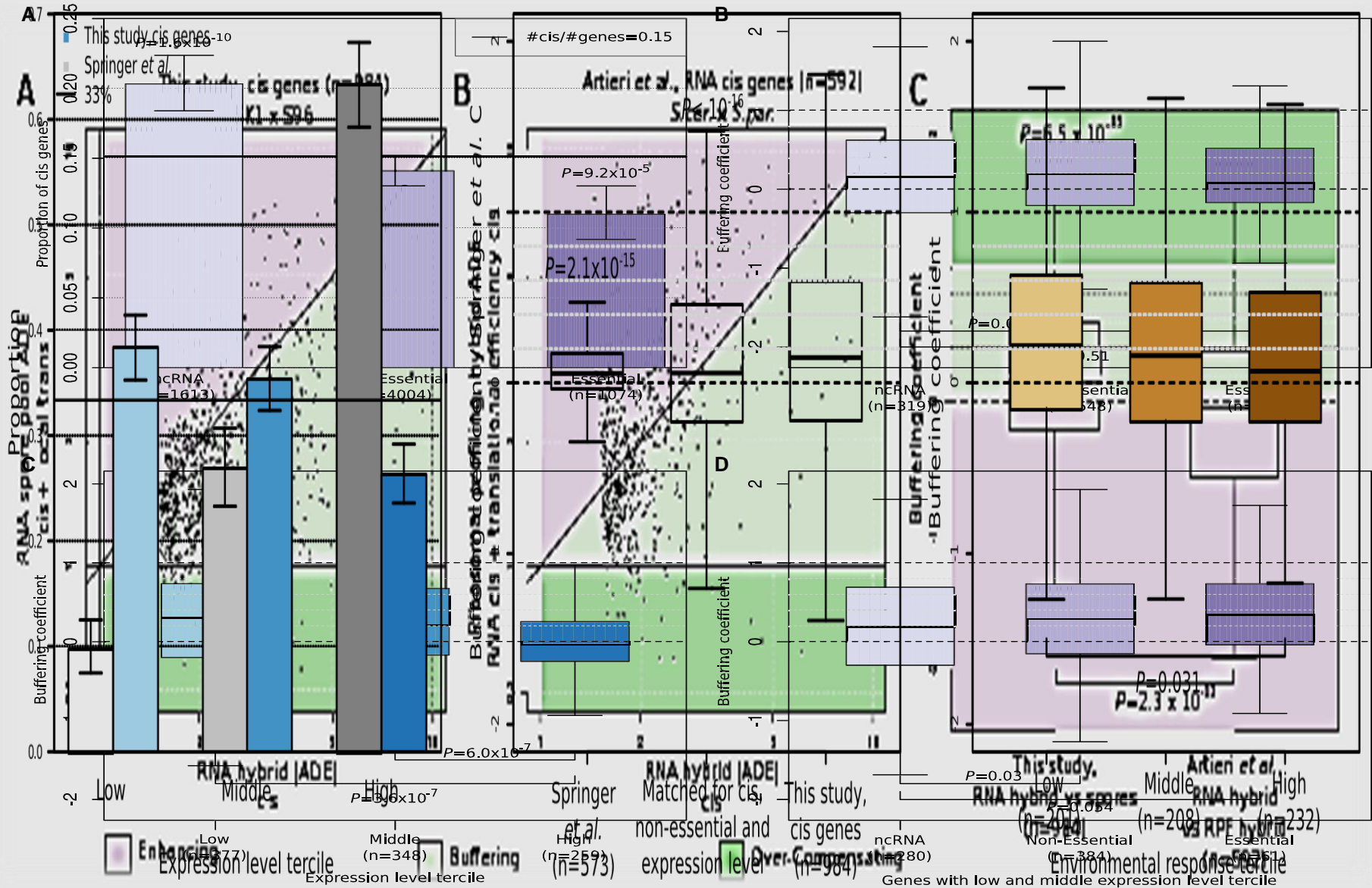
Gene annotation

Statistical modeling

Buffering coefficient C

P-value

Results



Discussion

Negative feedback is the main form to regulatory genomic variants

Compare the hybrid yeast ADE and the pool of spores ADE , we can

obtains that negative feedback play an important role in RNA synthesis and decomposition, translation, protein expression

On the one hand , negative feedback buffers can accumulate genetic variation, on the other hand, under the condition of the new environment can provide a selective advantage, so this mechanism play an important role in the process of evolution

Negative feedback regulation control genetic variation

Nov-Points

Query . Nov . Statistics

Shortcomings

Small

Inspire

Break . Agility

Thanks For Your Attention
Please Give Your Opinion