

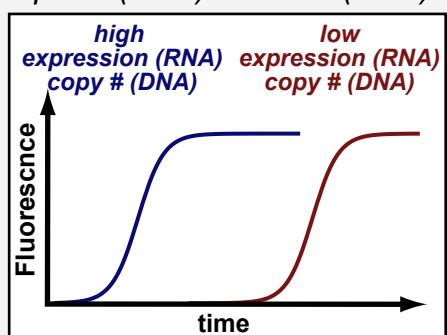
# The “Family Tree” of Molecular Biology Methods

## STUDY DNA/RNA

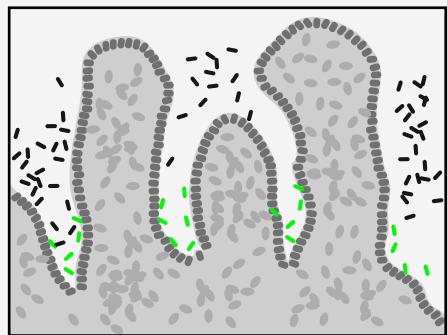
### Study DNA/RNA Structure (sequencing, footprinting)



### Study DNA/RNA Expression qPCR (DNA) RT-PCR (RNA)



### Study DNA/RNA Localization (FISH microscopy / histology)



## sequencing

automated      multi-plexed      single-cell

## agarose gels

## qPCR

natural primers

## cloning

add barcodes  
add restriction sites  
add mutations

## PCR (<20kbp)

un-natural primers

## DNA/RNA probes

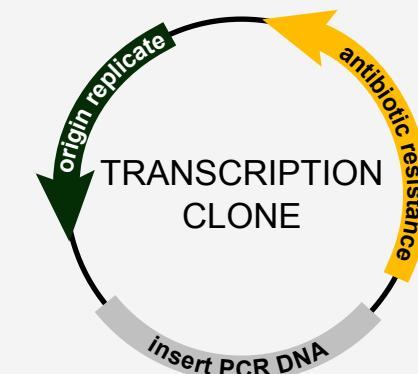
## Solid-phase DNA Synthesis (<200bp)

## Sequenced Genomes (~3Mbp)

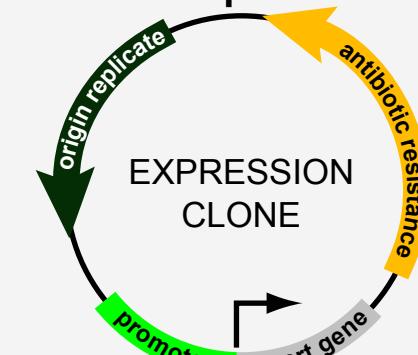
## Bacterial & Viral Vectors

## MAKE DNA TOOLS

### Perturb DNA Concentration



### Perturb Protein Structure and Expression



### Perturb/Study Upstream Regulation

