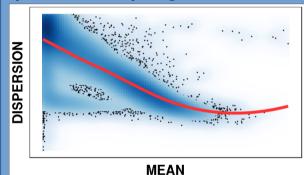
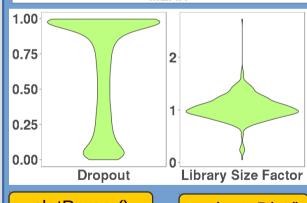
## A ESTIMATION

RNA-seq read counts of bulk or single cells\*

estimateParam()

# **Distribution** (Zero-Inflated) Negative Binomial





plotParam() evaluateDist()

\*source: user-provided, recount data base, predefined examples

### **B** SIMULATION

# Differential Expression Settings

- Number of genes
- Percentage DE genes
- Effect size (fold change)
- Number of simulations

DESetup()

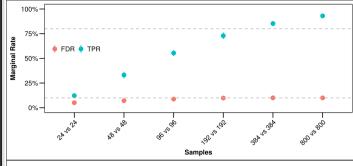
SimSetup()

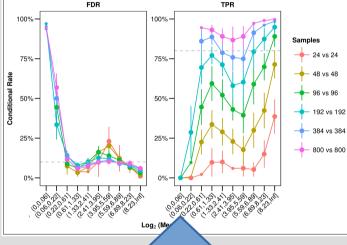
### **Simulation Settings**

- Number of replicates
- Parallel computing
- · Differential testing method

simulateDE()

## **C** EVALUATION





plotEvalRes()

#### **Power Analysis**

- MTC method
  - Cutoff
- Stratification by moments
  - Filtering

evaluateSim()

Wrapper function PowSim()