

Gene Expression:  $\text{Local-FDR}_{\text{Expr}} < 0.2$

Y

N

ChIP-chip Peak Detection:  $\text{Local-FDR}_{\text{Chip}}$  Calculation

**None Estrogen Target**

For each gene, scan introns and up/down stream 200K region, and identify peaks.

Within each peak, identify the transcription factor with the lowest  $\text{Local-FDR}_{\text{TF}}$

If  $1 - (1 - \text{Local-FDR}_{\text{Chip}}) \times (1 - \text{Local-FDR}_{\text{ER}\alpha}) < 0.36$

Y

N

**Direct Binding  
Genomic Target**

If  $1 - (1 - \text{Local-FDR}_{\text{Chip}}) \times (1 - \text{Local-FDR}_{\text{TF}}) < 0.36$

Y

N

**Indirect Binding  
Genomic Target**

Within gene promoter 1 Kb upstream,  
calculate  $\text{Local-FDR}_{\text{TF}}$

If  $\text{Local-FDR}_{\text{TF}} < 0.2$

Y

N

**Nongenomic Target**

**Target with  
unknown  
mechanisms**