

## TOXIN SEARCH

### ORF prediction

*Transdecoder (>50 aa)*

### Homology search

- *blastp* (Tox-Prot)
- *hmmsearch* (Pfam)

## ANNOTATION AND FILTERING

### Find signal peptide

*signalp*

### Remove redundant sequences

*CD-HIT*

## VALIDATION

### Reciprical search

- *blastp* (Tox-Prot, NCBI nr)
- *hmmsearch* (Pfam)

### Phylogenetics

*MAFFT, RAxML*

