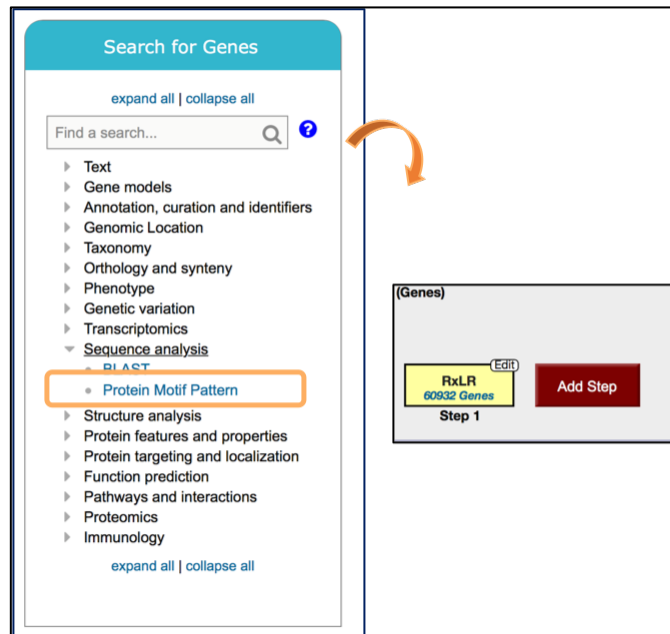# FungiDB: Using regular expressions to identify motifs

1. Identify oomycete-specific motif RxLR

Oomycetes infecting plants employ effector proteins to establish a successful infection. Effector proteins are commonly secreted and one of the largest group is the RxLR effectors, which is defined by the conserved N-terminal Arg-Xaa-Leu-Arg (RxLR) motif.

a) Navigate to *Search for Genes* panel, and click on the *Sequence Analysis*, and *Protein Motif Pattern*

b) Search for the RxLR motif, but think carefully as to how to you would represent this motif using regular expressions

    a. Write a regular expression that defines a protein sequence of RXLR as r.lr, where X (.) is any aminoacid.

Oomycetes have several effector proteins with known domains.

c) How many of the genes identified also have a transmembrane domain?

    a. *Add Step, ... Protein Targeting and Localization, Transmembrane Domain Count*