Proteome Analyst

PENCE Bioinformatics-1

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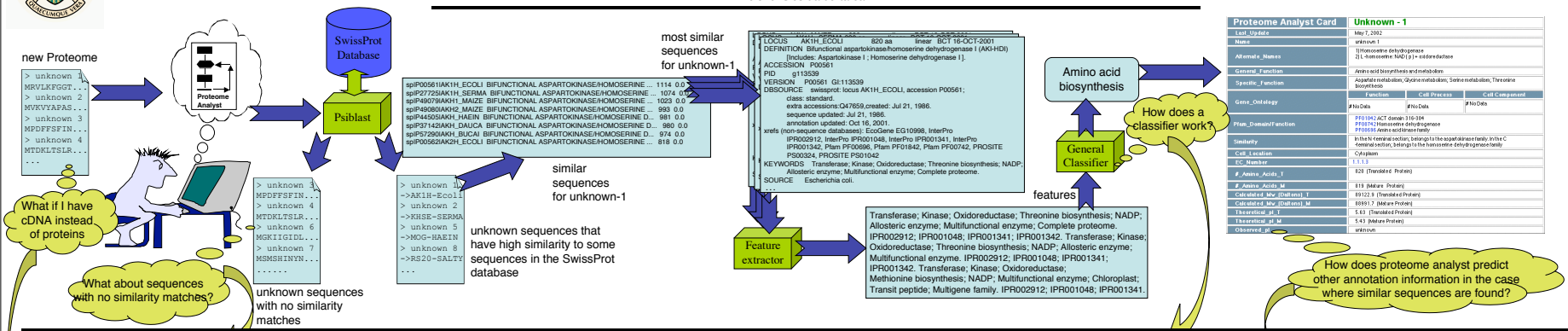


Low Similarity Sequences! What do we do?

Analysis techniques are being developed based on motifs

Motif finder

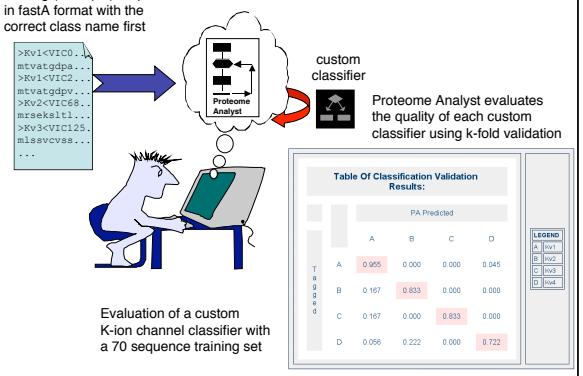
Secondary Structure P.

cDNA?

No problem.
Proteome Analyst will pre-translate to protein.

Creating a Custom Classifier

training (example) sequences in fastA format with the correct class name first



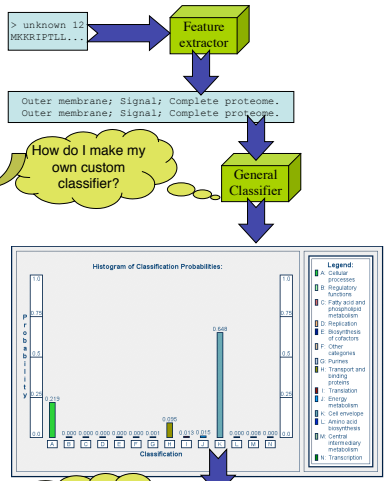
Proteome Analyst evaluates the quality of each custom classifier using k-fold validation

Classifiers

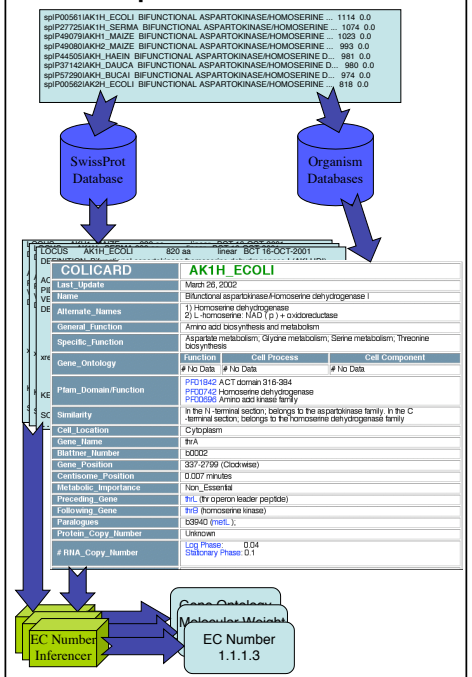
Classifier Algorithms (Machine Learning)

- Naive Bayes
- Tree-Augmented Naive Bayes (TAN)
- Neural Networks
- Decision Trees
- Support Vector Machine (SVM)
- Feature Selection - Wrapping

Classifier Decisions

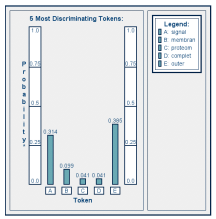


Predicting other annotation information when similar sequences are found



a set of prediction algorithms, one for each field -
some simple and some as complex as general function prediction

Classifier Decisions Explained



The features (tokens) in the sequences that were similar to the unknown sequence, that were most important in making the classification decision

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