Fettuccine Software Architecture

Home Page

Short Description
Links:
About us
Family_table
Distribution of retroelements
Translated products
AA relationship viewer
Peptide sequence Identifier
Retrotransposon in sample
Expression Atlas
Documentation

Family_table

Search Bar (top)
Table (bottom)

Family Name
Family info

Database 1
Only show:
Family name -
General Info

Distribution

Genome Browser Like
visualisation:
Human genome
LINE1
HERV

Transcripts

EXTRA:
Translated products?

Database 1
Only show:
RT name - Family -
Chromosome -
Location -
Transcripts?

Translated Products

Search bar w/ dropdown +
checkboxes

Table
List of family names
Translated products (AA seq)

EXTRA:
predicted/actual?
Accession ID?

Database 1
Only show:
RT name - Family -
Chromosome -
Location - Transcripts
- Translated
products

AA relationship viewer

Search bar - check box to focus
on specific molecules

Relationships based on
alignment distances between
trans. products.

protein-to-protein interactions
metabolic pathways?

Interactive environment
Drag and drop)

Background analysis
or Predetermined

Pep Seq Identifier

Search box and/or
Upload box (fasta files)

(Uses blastp in background)

Table which displays family
the sequence matches
and
topt blastp results for the use

Background blastp
search against
translated products of
Database 1

Retrotransposon in sample?

Upload box
checkmark box to dictate
file type

Calculate which RT are
being translated and
expressed by comparing
sequences
(use blastp)

Background: get peptide
matches sequences -
blastp against translated
profucts of Database 1 -
Show results

Expression Atlas

Map of family

unique ID for set of samples
RT
cell tissue type?
Age ?
ect

Background: Catergorize
and store results from
Upload a file analysis
Database 2 is updated
with new data

Documentation

PDF FILE

About Us

Description
Contact

Fettuccine Project Planner

Legend: Michaela | Nayam | Dan | Dionysis | Teamwork

ACTIVITY	08-14 Jan 2018	15-21 Jan 2018	22-28 Jan 2018	29 Jan - 04 Feb 2018	05-11 Feb 2018	12-16 Feb 2018
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Basic GUI - HTML Basics - Flask - MySQL

Family Table
- Create MySQL database - Website's Basics
- Use API to grab the data and format it from Table Br.
- Find the transcript data
- Search Bar - check boxes - visualising data - Website's Basics

Distribution of retrotransposons
- Visualise the whole genome
- Map LINE1 & HRV
- Transcripts
- Extra: Translated products?

Translated Products
- Find them
- Translated products into database
- Extra: Predicted/Actual

Translated Products relationships
- Relationships based on alignment scores between AAs
- Visualise the distances
- Create an interactive environment (drag&drop)
- Protein-protein interactions?

Pep-seq to Retrotransposon family
- Handle of the input (Either sequence(s) or fasta file)
- Blastp against the AAs of the Database
- Code that determines if there is a corresponding RT family
- Return the resulting family (or nothing) and blast results

RT in sample?
- Handle uploaded file
- Use the previous code
- Store the results - Expression Atlas

Documentation - About us

GUI

Optimisation