Inference on the Evolutionary History of Embryo-Cerebral Related Genes in Metazoan Using a novel Bionformatic Approach.

Participants :
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Matemáticas

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Evolutionary biology & genomics

- Modern genomics brings a radical change to evolutionary biology.
- Availability of multiple-complete genomes and bioinformatics tools.
- New perspectives for homologous-genes relationships.
- **Evolutionary history of embryo-cerebral stage related genes***
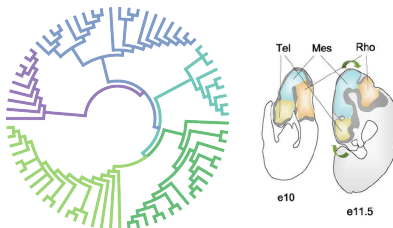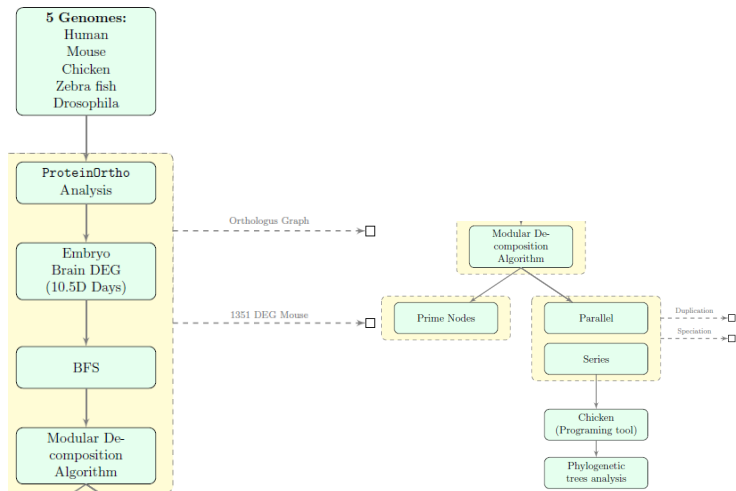
Objectives

Main Objective

Infer the evolutionary history of genes associated with the development of the brain in the embryonic stage of metazoan through an orthologous gene function analysis.

Specific Objectives

- Create an orthologous-genes graph from 5 different metazoan genomes using `ProteinOrtho` tools

- Determine orthologous genes for the DEG's during brain development in embryonic stage in mouse for further in silico analysis.

- Determine gene evolutionary events (speciation,duplication)using BFS and modular decomposition algorithm on python environment.

- Determine a GO comparative analysis from the phylogenetic trees obtained using our propoused bioinformatic approach.

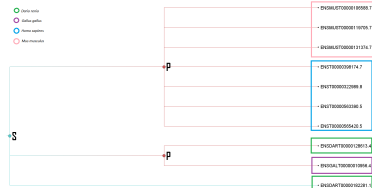Participants :   Ramírez R. Antonio   Aviña P.Katia   Gómez R.Ricardo   Villegas J. Santiago   Álvarez C. Sebastián   TA: Valdivia M. Dulce I.

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Methodology: Bioinformatics Approach

Results and Discussion

- Modular Descomposition
- Reconciliation
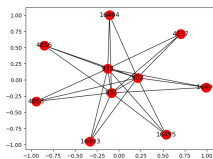
Thank you!
Comments?
Questions?
OrthoTeam 2018