

### Building monocyte derived dendritic cell behavior

#### **Experimental steps**

This tab includes data related to wet-lab experiments, such as laboratory protocols and FASTQ files, done on monocyte derived dendritic cells to calibrate and validate intracellular models of monocyte derived dendritic cells.

#### **Bioinformatics steps**

This tab includes data related to bioinformatics analysis, such as scripts and pipelines, used to analyze data gathered in the wet-lab part.

#### Modeling steps

This tab includes data related to the intracellular mathematical model of dendritic cells, including literature used to build the models, links to scripts, results, etc.

## **Experimental flow for coculture experiment**

Sample metadata Monocyte derived dendritic cells **PBMC Isolation Protocol** GM-CSF+IL4 Differentiation and **Protocol** A. fumigatus Collect at 0, 2,4,6,8 hours Transcriptome Proteome **Blot assays** Protein measurement RNA-SEQ FASTQ files **ELISA Library Prep** 

### **Bioinformatics pipeline**

Monocyte derived dendritic cells

**Get Nextflow pipeline** FASTQ files for Dendritic Cells MultiQC pretrim Pool samples from different runs Adapters FASTA file **Cut adapters (Trimmomatic)** Aligned reads STAR aligner (index and align) Get reference genome **Qualimap, SAM tools MultiQC Analysis scripts** DESEQ2, CHEA3, **Results** enrichment



# Mathematical modeling pipeline