

# Cronograma e Planejamento: disciplina: ICB5781-1 - Regulação Gênica em Células Imunes

## Semana 1

### Quarta - 18/10 - 14h

- aula introdutória
- formação grupos para discussão dos artigos (Turma 1 e Turma 2: **T1 ou T2**)
- formação grupos para preparo de projeto em grupo (pensar em perguntas)

## Semana 2

### Segunda - 23/10 - 14h

- aula: Introduction to the function of non-coding RNAs, long noncoding RNAs and microRNAs - **Juliane Fernandes, FMRP-USP**

**ARTIGO T1:** The STAT3-Binding Long Noncoding RNA Inc-DC Controls Human Dendritic Cell Differentiation. Wang, P. et al. Science, 344 (6181), .DOI:

10.1126/science.1251456

([https://www.science.org/doi/10.1126/science.1251456?url\\_ver=Z39.88-2003&rfr\\_id=ori:rid:crossref.org&rfr\\_dat=cr\\_pub%20%20pubmed](https://www.science.org/doi/10.1126/science.1251456?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed))

### Quarta - 25/10 - 14h

- reprogramação gênica, Car-T cell e uso clínico - **Rodrigo Nalio Ramos, FM - USP**

**ARTIGO T2:** Genome-wide CRISPR Screens in Primary Human T Cells Reveal Key Regulators of Immune Function. Shifrut et al., 2018, Cell 175, 1958–1971

December 13, 2018 ([https://www.cell.com/cell/pdf/S0092-8674\(18\)31333-3.pdf](https://www.cell.com/cell/pdf/S0092-8674(18)31333-3.pdf) )

## Semana 3

### Segunda - 30/10 - 14h

- Methodologies to assess transcriptome, LongRNome, miRNome - **André Aquime Gonçalves** - University of Oxford, Inglaterra

**ARTIGO T1:** Single-cell transcriptomics of human T cells reveals tissue and activation signatures in health and disease Szabo, P.A., Levitin, H.M., Miron, M. et al. Nat Commun 10, 4706 (2019). <https://doi.org/10.1038/s41467-019-12464-3>

(<https://www.nature.com/articles/s41467-019-12464-3> )

#### Quarta - 01/11 -

- Integration of transcriptomes and proteomes to understand the role of gene regulation - **Patrick da Silva**, Harvard Medical School, USA

**ARTIGO T2:** Reinvestigation of Classic T Cell Subsets and Identification of Novel Cell Subpopulations by Single-Cell RNA Sequencing. Wang, X. et al. *J Immunol* (2022) 208 (2): 396–406. <https://doi.org/10.4049/jimmunol.2100581>  
(<https://journals.aai.org/jimmunol/article/208/2/396/234729/Reinvestigation-of-Classical-T-Cell-Subsets-and> )

#### Semana 4

##### Segunda - 06/11 - 14h

- ferramentas para análise de expressão de RNA, BCR e TCR - **Gabriela Kinker**, AC Camargo

**ARTIGO T1:** NKILA lncRNA promotes tumor immune evasion by sensitizing T cells to activation-induced cell death. Huang, D., Chen, J., Yang, L. et al. *Nat Immunol* 19, 1112–1125 (2018). <https://doi.org/10.1038/s41590-018-0207-y>  
(<https://www.nature.com/articles/s41590-018-0207-y> )

##### Quarta 08/11 - 14h

- ferramentas de análise de expressão e interação miRNA/lncRNAs e mRNAs

Ferramentas:

CRISPR <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420636/>

<https://en.vectorbuilder.com/>

<https://design.synthego.com/#/>

NCPATH: <http://ncpath.pianlab.cn/#/Home>

miRmap: <https://mirmap.ezlab.org/app/>

Todas as ferramentas para estudar miRNA em unico site:

<https://www.tamirna.com/micrnas-web-based-tools/>

**ARTIGO T2:** MicroRNA-155 Controls T Helper Cell Activation During Viral Infection. Goncalves-Alves Eliana, Saferding Victoria, Schliehe Christopher, Benson Robert, Kurowska-Stolarska Mariola, Brunner Julia Stefanie, Puchner Antonia, Podesser Bruno K., Smolen Josef S., Redlich Kurt, Bonelli Michael, Brewer James, Bergthaler Andreas, Steiner Günter, Blüml Stephan. *Front. Immunol.*, 13 June 2019.

<https://www.frontiersin.org/articles/10.3389/fimmu.2019.01367/full>

<https://doi.org/10.3389/fimmu.2019.01367>

## **Semana 5**

**Segunda 13/11- - 14h**

- RNA for vaccine strategy. Norbert Pardi, University of Pennsylvania (ZOOM)

<https://www.med.upenn.edu/apps/faculty/index.php/g349/p8483546>

- apresentação/discussão do projeto