- Announcements
- Lab Quiz
- Pre-lab Lecture
  - ❖ Writing a Figure/Caption
  - ❖ In Vitro Transcription
  - ❖ Today in Lab: M1D3

# Announcements

- No lab next Tuesday (Monday schedule) or Wednesday – see you in a week!
- Next time in lab is *packed*
  - Very short quiz + pre-lab lecture
- FNT: Lots! Reading and calculations for Day 4, practice figures, writing exercises.

# Figures: Style and Scope

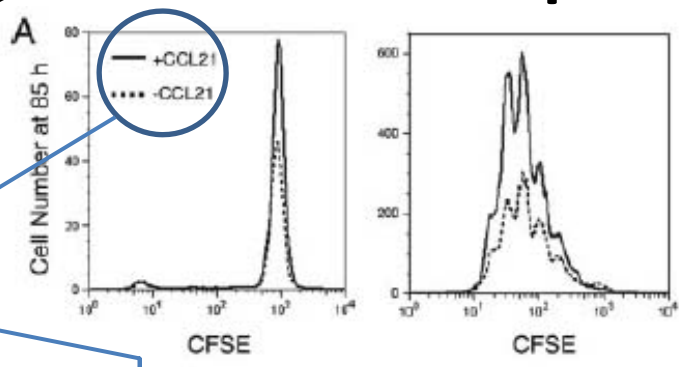
- Title: concise, informative → gives overall goal/result

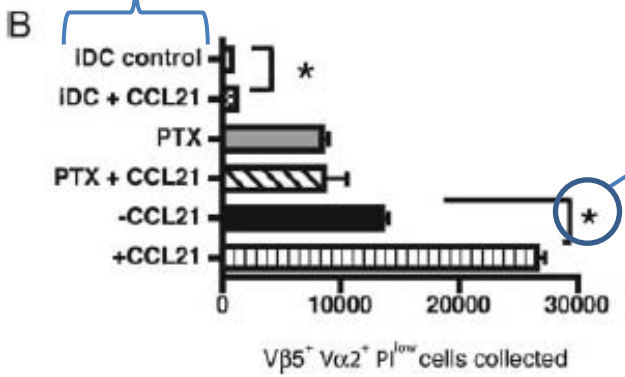
- Caption: gives context for result, from big to small
  - Introduce what are we looking at
  - Include just methods needed to understand the result
  - Define all elements (e.g., DNA ladder)
  - Cover primarily facts, not interpretation
    e.g. observed/expected sizes

- Aesthetics simplicity, clarity → at-a-glance labeling
  e.g. some ladder band sizes

# Figures: Example

at-a-glance labeling




defined in caption

title states result, without over-interpreting

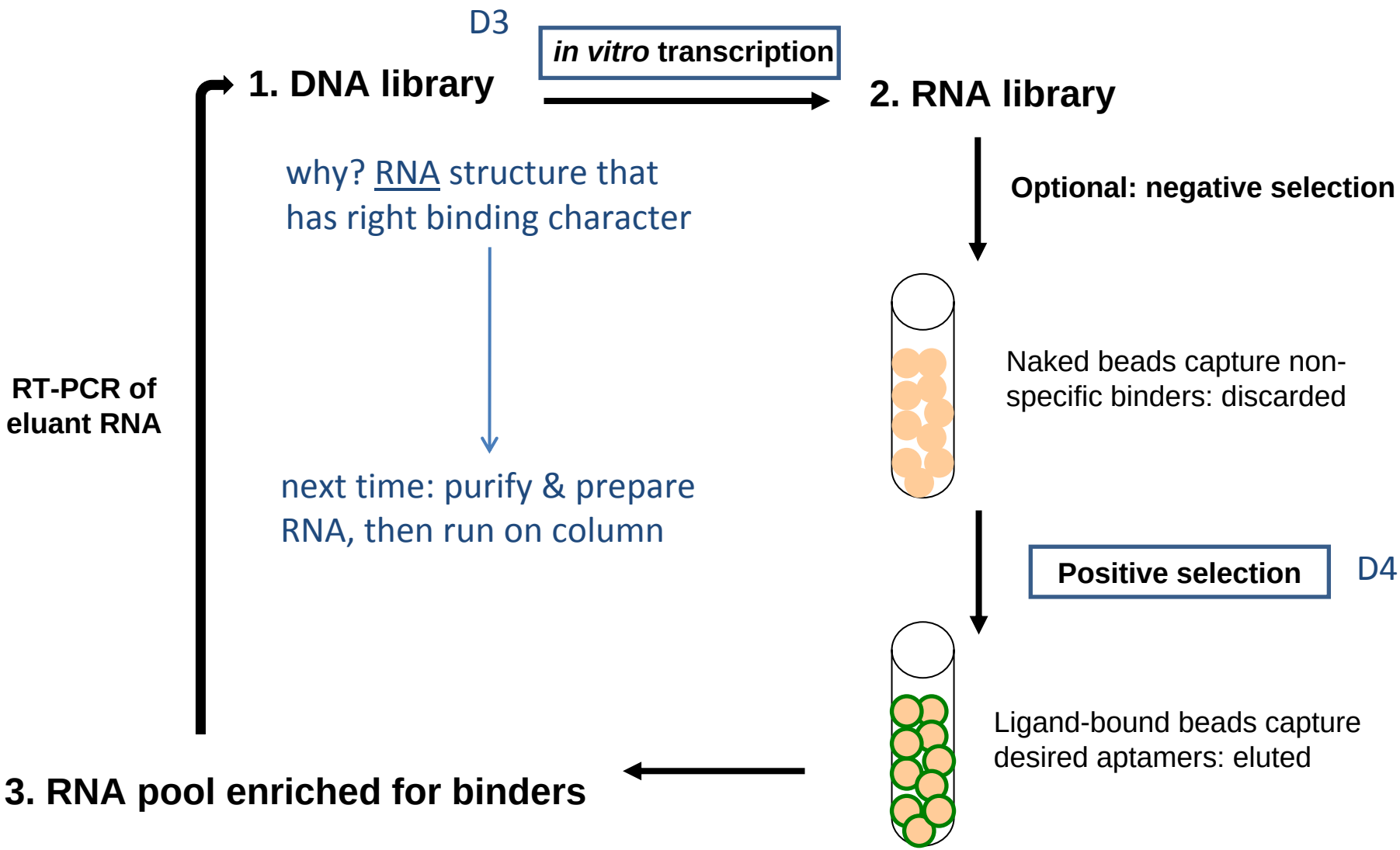
**FIGURE 5.** CCL21 impacts naive T cell proliferation under conditions of rare Ag-specific T-DC encounters. Cocultures comprising 9% OVA-specific OT-II CD4$^+$ T cells, 81% C57BL/6 CD4$^+$ T cells, 5% OVA-mDC, and 5% iDC with/without CCL21 were analyzed by flow cytometry at 85 h. *A*, Sample CFSE histograms are shown for control (left, iDC only) and experimental (right, with OVA-mDC) conditions. *B*, OT-II cell recovery for all conditions is shown. Average ± SD for 3 wells per condition. *, bracketed conditions statistically different ($p \leq 0.05$). *A* and *B*, from one representative of five experiments.

overview of experiment

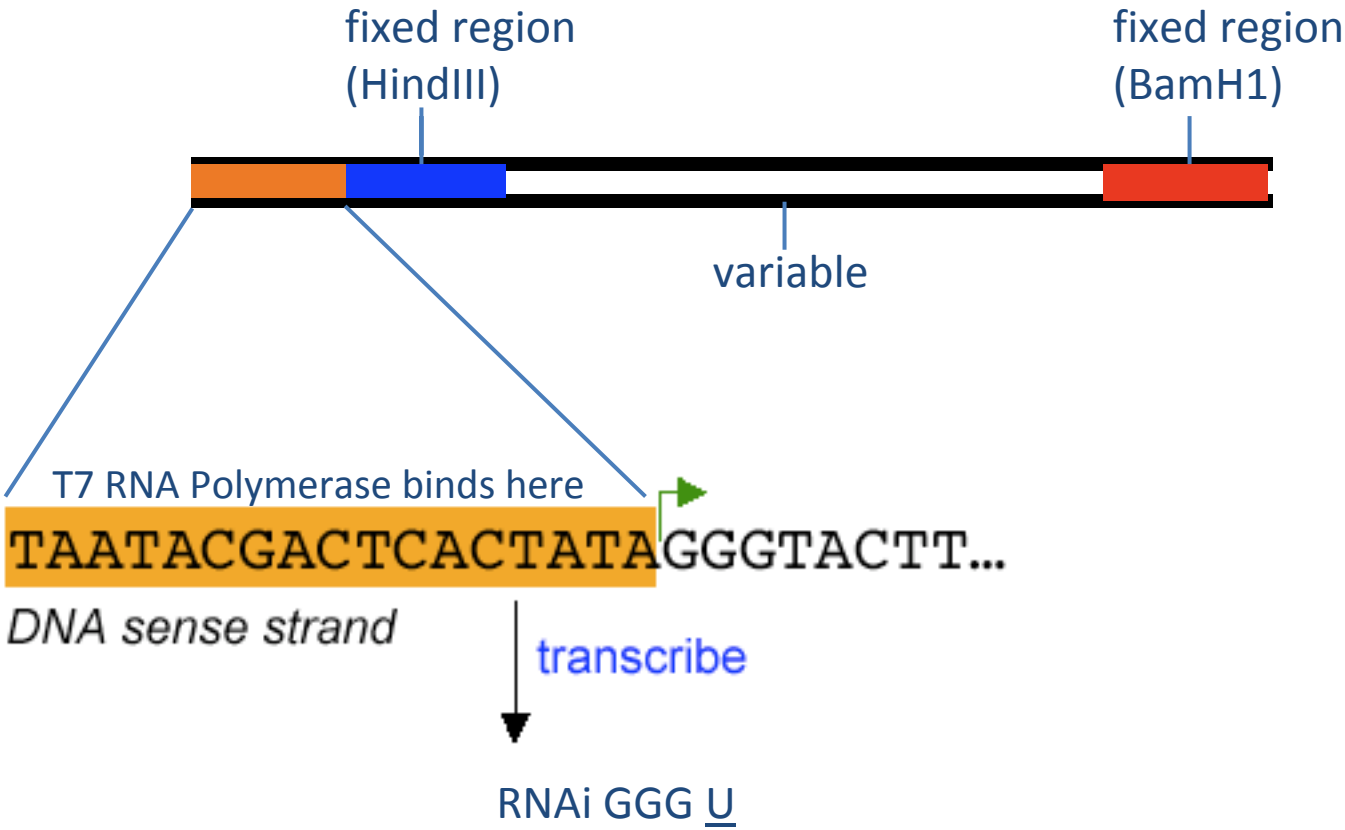
walkthrough of figure

Source: Stachowiak, A., et al. "Homeostatic Lymphoid Chemokines Synergize with Adhesion Ligands to Trigger T and B Lymphocyte Chemokinesis." *J Immunol* 177 (2006): 2340-2348.

# SELEX Overview



# In vitro transcription




Cartoons from Niles Lecture 2.

# PCR vs. IVT

| PCR | IVT |
| --- | --- |
| DNA plasmid template | DNA fragment (linear) |
| Primers | not needed! |
| dNTPs | NTPs |
| Taq DNA polymerase | T7 RNA Polymerase |
| Buffer, Mg ions | similar |

# Today in Lab

- Working with RNA
  - Gloves on, keep clean
- Set up IVT rxns
  - Run for 4 hrs, note your start time up front
  - Stored frozen till next time
  - Return the rest of your DNA, too!
- Meanwhile, journal article discussion
- Also sign up for column conditions

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