Ig → immunoglobulin

4 polypeptide chains
↳ 2 light (L) : lower molecular weight
2 heavy (H)

5 classes: IgM, IgG, IgA, IgE, IgD
↑ structural differences in the constant-region domains of the heavy chain

plasma cell
↓
antibody-secreting B cell

CD4+ T cells usually modulate immune responses by secreting cytokines.

Th1
↓ secrete
IL-1, IFN-γ, lymphotoxin
favored responses against viruses + intracellular pathogens

Th2
↓ secrete
IL-4, IL-5, IL-10, IL-13
enhance humoral immunity while suppressing cell-mediated immunity

when confronted with the same antigen, BALB/c mice exhibit a Th2-dominant response and C57BL/6 mice exhibit a Th-1 dominant response

Interleukins are cytokines that are secreted by leukocytes and act on other leukocytes.
Classified based on what type of immunity they're primarily involved in:

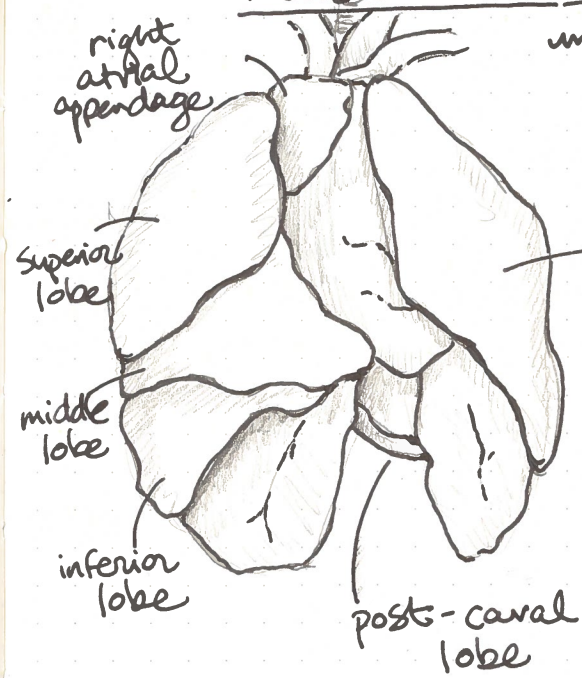
innate
IL-1, IL-6, IL-12, TNF-α, IFN-α

adaptive
IL-2, IL-4, IL-5, IL-10

complement system: 40+ chemically + immunologically distinct proteins capable of interacting with antibodies, certain bacterial products, + cell membranes

chemokines: along with adhesion molecules, are the principle controllers of leukocyte migration and so directly affect leukocyte retention + relocation during hematopoiesis + at sites of immune defense + inflammatory disease

Mouse as a model organism



mouse lungs
Based on Hoyt et al.

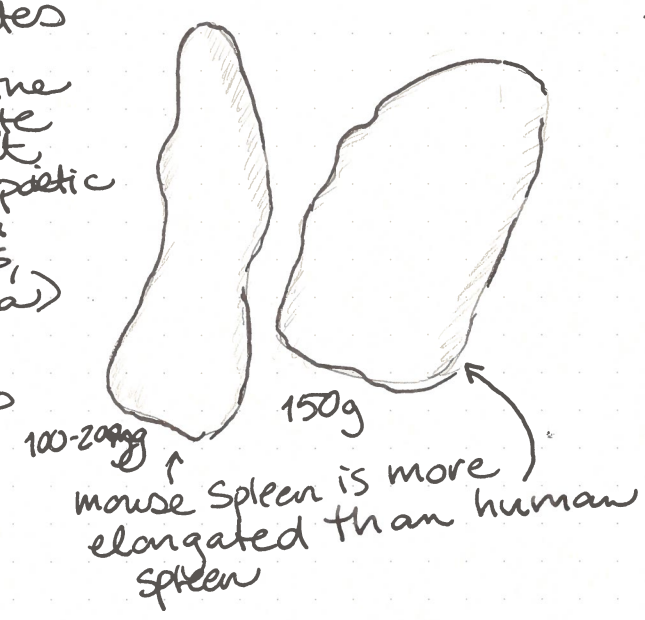
5 lobes → 4 left, 1 right

humans are about 3000 times larger than mice

"The inflammatory response in mice, unlike that of most larger animals, is often associated with increased lymphocytes as well as increased neutrophils." - Everds

Spleen: filters blood + mediates immune responses
In mice but not humans, the spleen served as a normal site of hematopoiesis throughout life + can provide a hematopoietic response to various stimuli (diseases, infections agents, tumors, blood loss, anemia)

adult weights of spleen
100-200 mg in mice, 2-4 months
150 g humans



mouse spleen is more elongated than human spleen