

Blood → bodily-fluid → deliver oxygen → to cells  
 ↓  
 Peripheral blood cell → deliver nutrients → from cells  
 → transport metabolic waste

↳ cellular component of blood

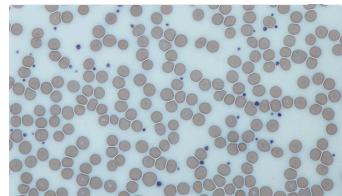
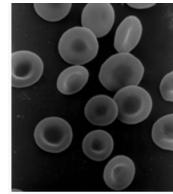
RBC

PBC → red-blood cells (erythrocytes)

wBC

white-blood cells (leucocytes)

platelets (thrombocytes)



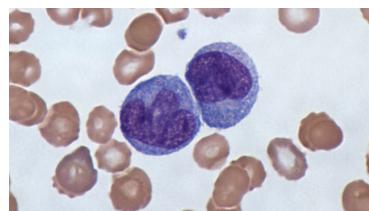
Peripheral blood mononuclear cell

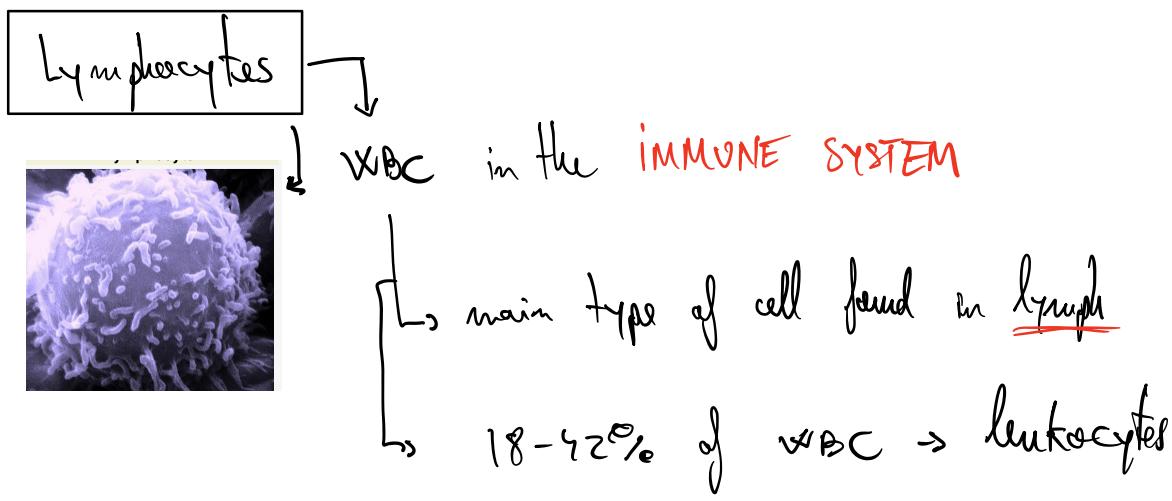
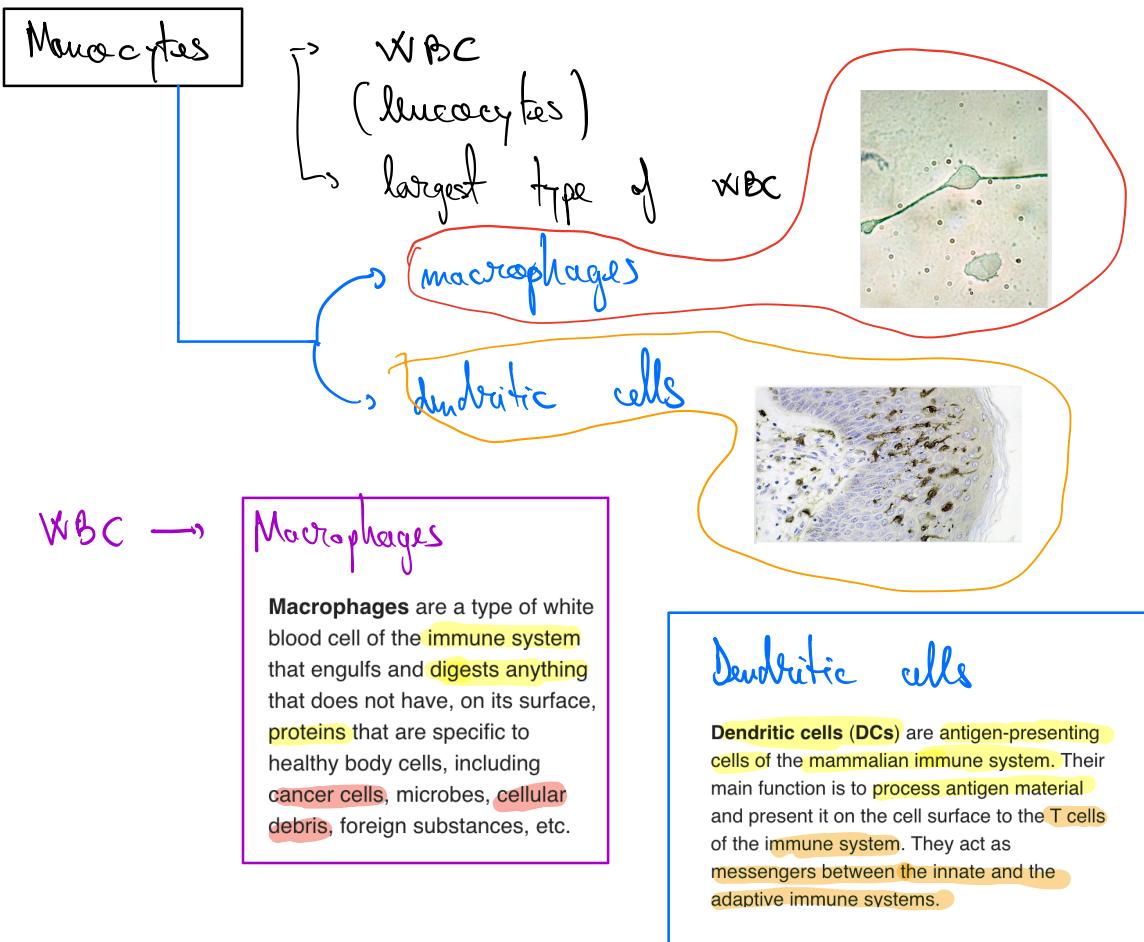
↳ any PBC having a



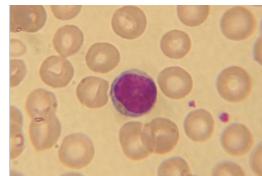
- lymphocytes ( $\rightarrow$  T, B, NK cells)
- monocytes

!! Erythrocytes + platelets  $\Rightarrow$  NO Nuclei





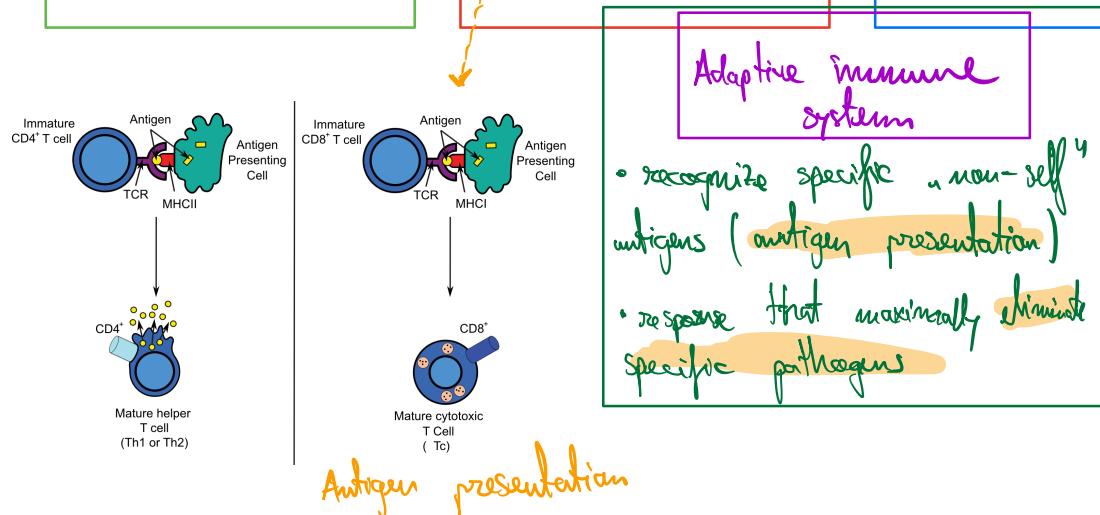
**Leukocytes / lymphocytes** ⇒



Natural Killer cells
<ul style="list-style-type: none"> <li>part of the innate I.S.</li> <li>defend host from tumors</li> <li>defend from virally infected cells</li> </ul>

T cell
<ul style="list-style-type: none"> <li>thymus</li> <li>cell-mediated immunity</li> <li>antigen-presentation</li> </ul>

B cell
<ul style="list-style-type: none"> <li>bone marrow</li> <li>humoral immunity</li> <li>antigen-presentation</li> </ul>



Antigen presentation is a vital immune process that is essential for T cell immune response triggering. Because T cells recognize only fragmented antigens displayed on cell surfaces, antigen processing must occur before the antigen fragment, now bound to the major histocompatibility complex (MHC), is transported to the surface of the cell, a process known as presentation, where it can be recognized by a T-cell receptor. If there has been an infection with viruses or bacteria, the cell will present an endogenous or exogenous peptide fragment derived from the antigen by MHC molecules.

