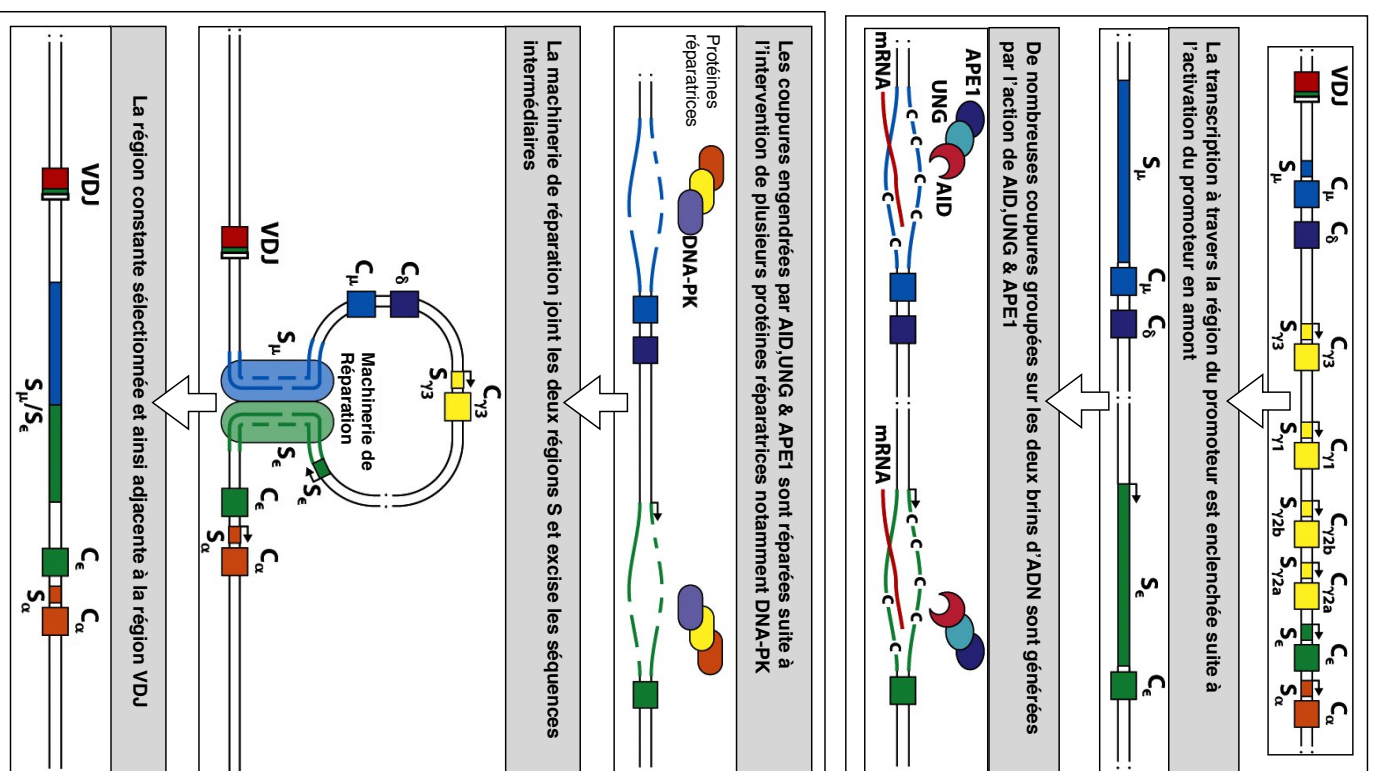
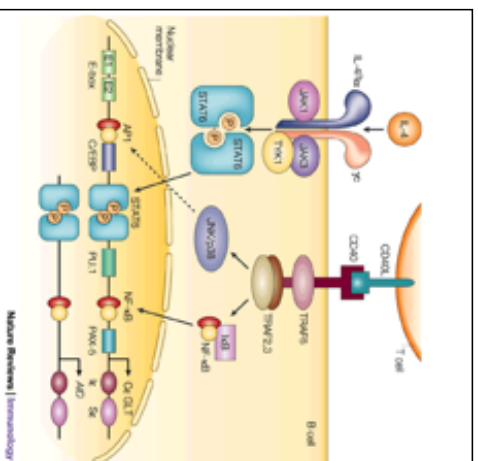
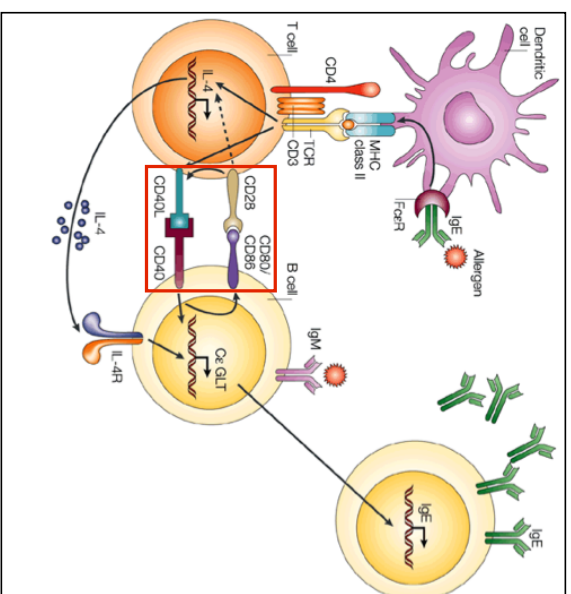
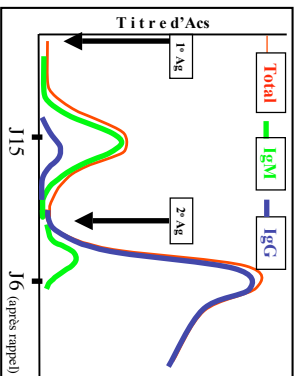


# II- Cellules de l'immunité adaptative

## Lymphocytes B

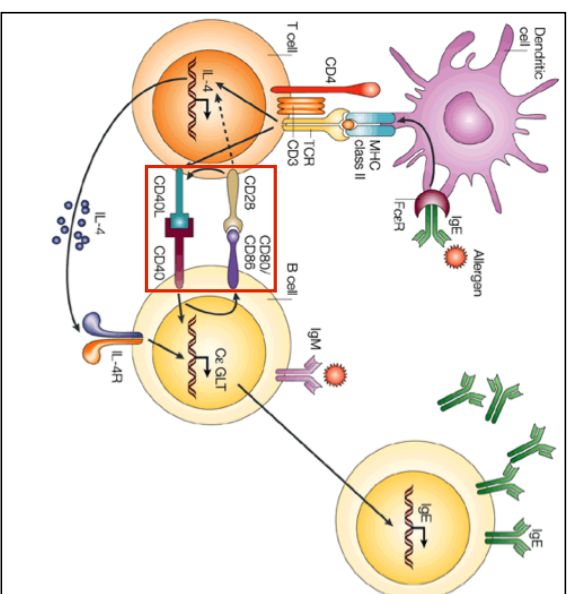
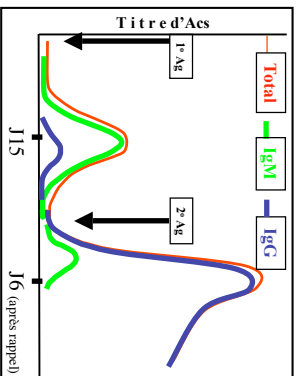
### Commutation de classe



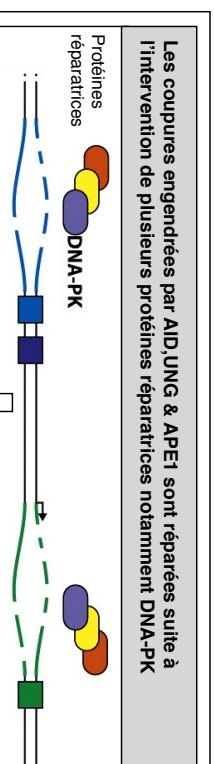
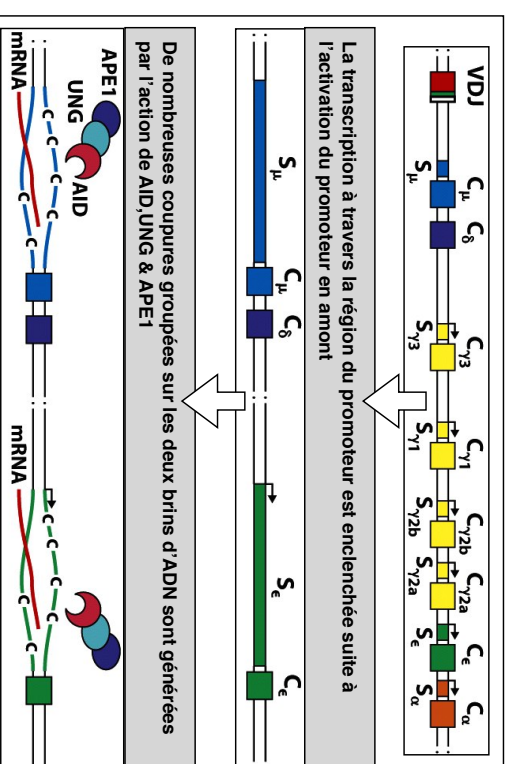
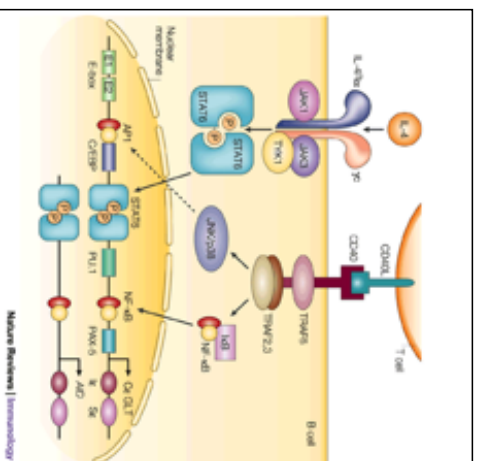
# II - Cellules de l'immunité adaptative

## Lymphocytes B

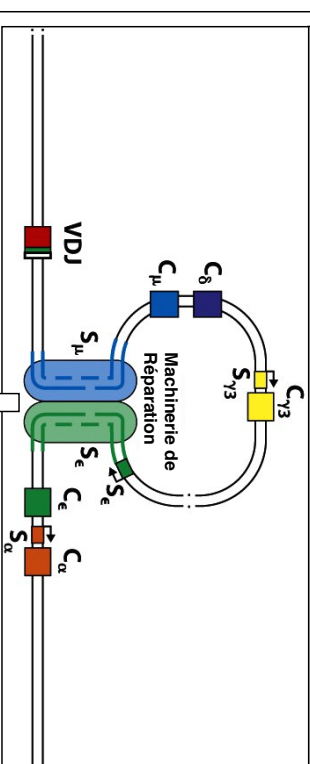
### Commutation de classe



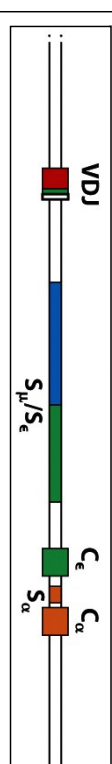
Role of cytokines in regulating expression of antibody classes							
Cytokines	IgM	IgG3	IgG1	IgG2b	IgG2a	IgE	IgA
IL-4	Inhibits	Inhibits	Induces		Inhibits	Induces	
IL-5							Augments production
IFN- $\gamma$	Inhibits	Induces	Inhibits		Induces	Inhibits	
TGF- $\beta$	Inhibits	Inhibits		Induces			Induces



La machinerie de réparation joint les deux régions S et excise les séquences intermédiaires



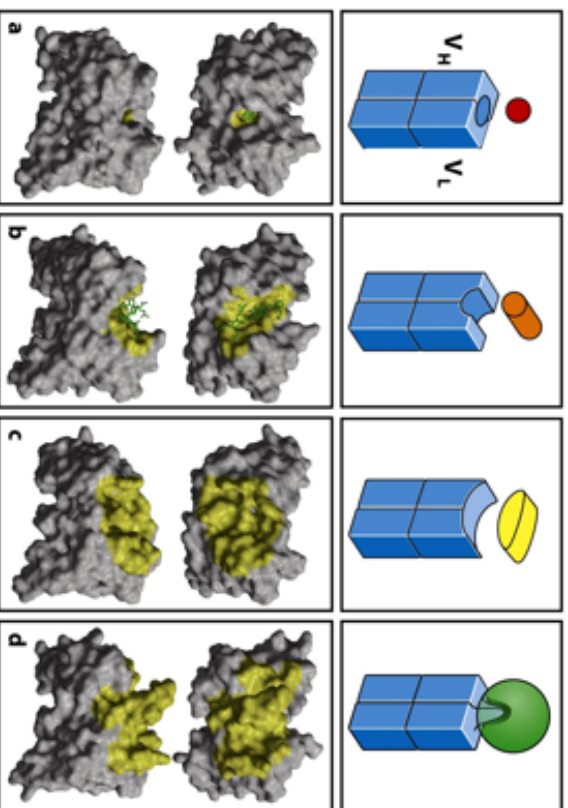
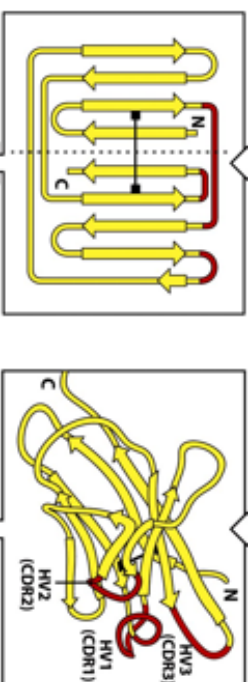
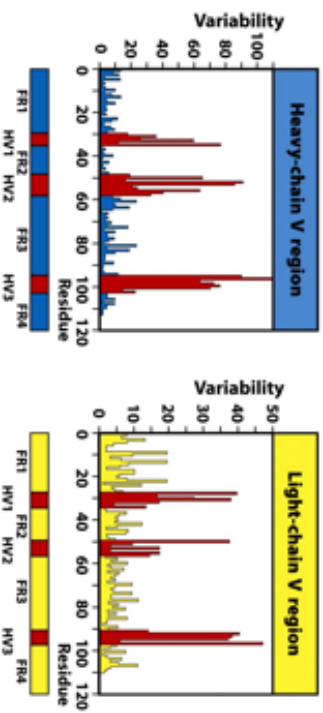
La région constante sélectionnée et ainsi adjacente à la région VDJ



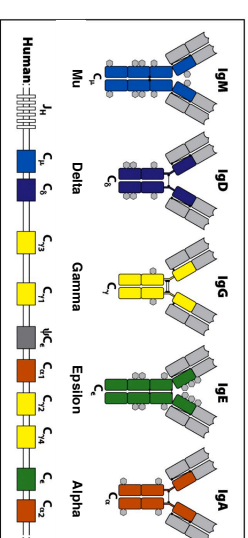
# II - Cellules de l'immunité adaptative

## Lymphocytes B

### Mécanismes de reconnaissance & d'action



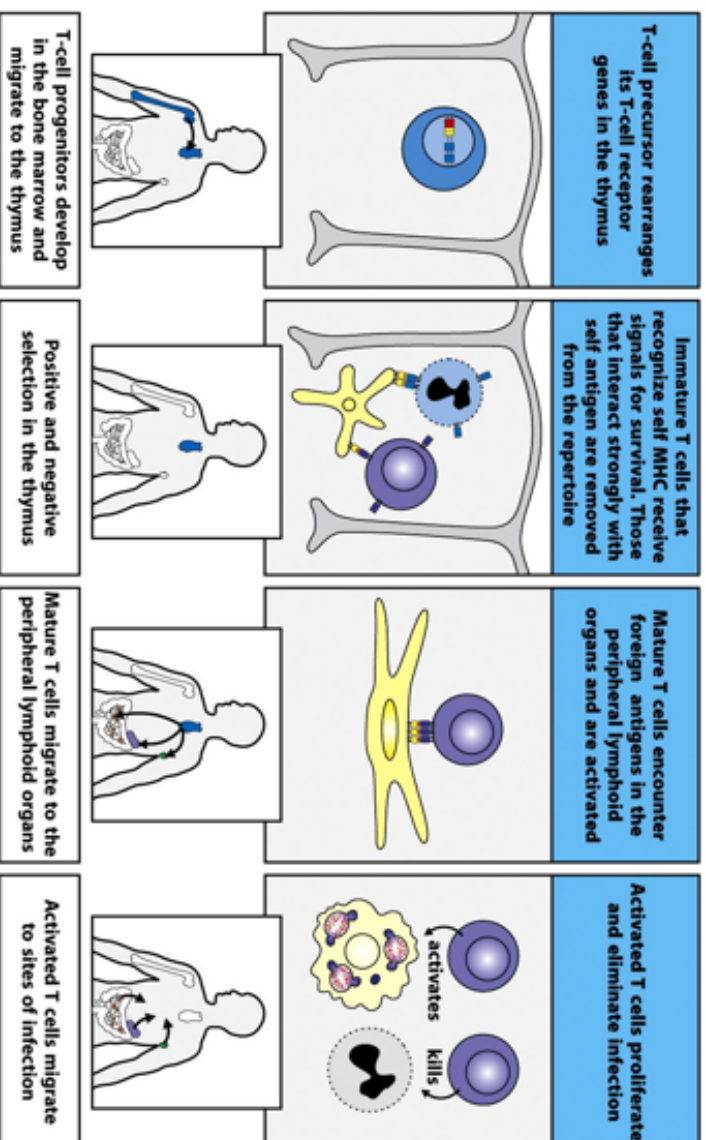
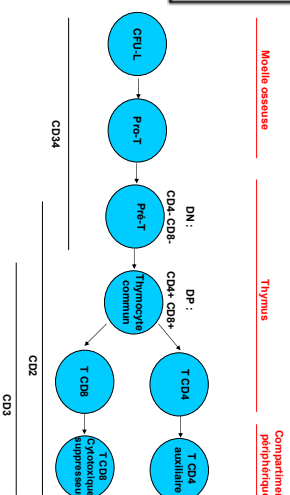
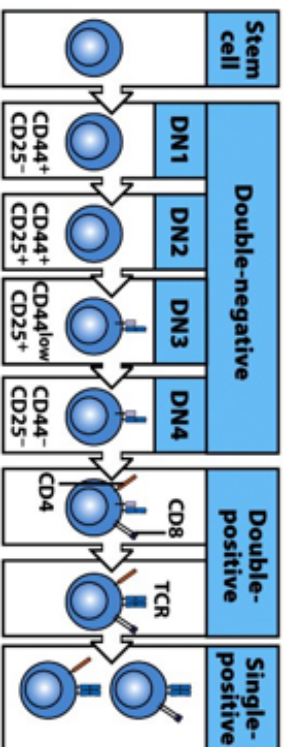
Functional activity	IgM	IgD	IgG1	IgG2	IgG3	IgG4	IgA	IgE
Neutralization	+	-	++	++	++	++	++	-
Opsonization	+	-	+++	*	++	+	+	-
Sensitization for killing by NK cells	-	-	++	-	++	-	-	-
Sensitization of mast cells	-	-	+	-	+	-	-	+++
Activates complement system	+++	-	++	+	+++	-	+	-



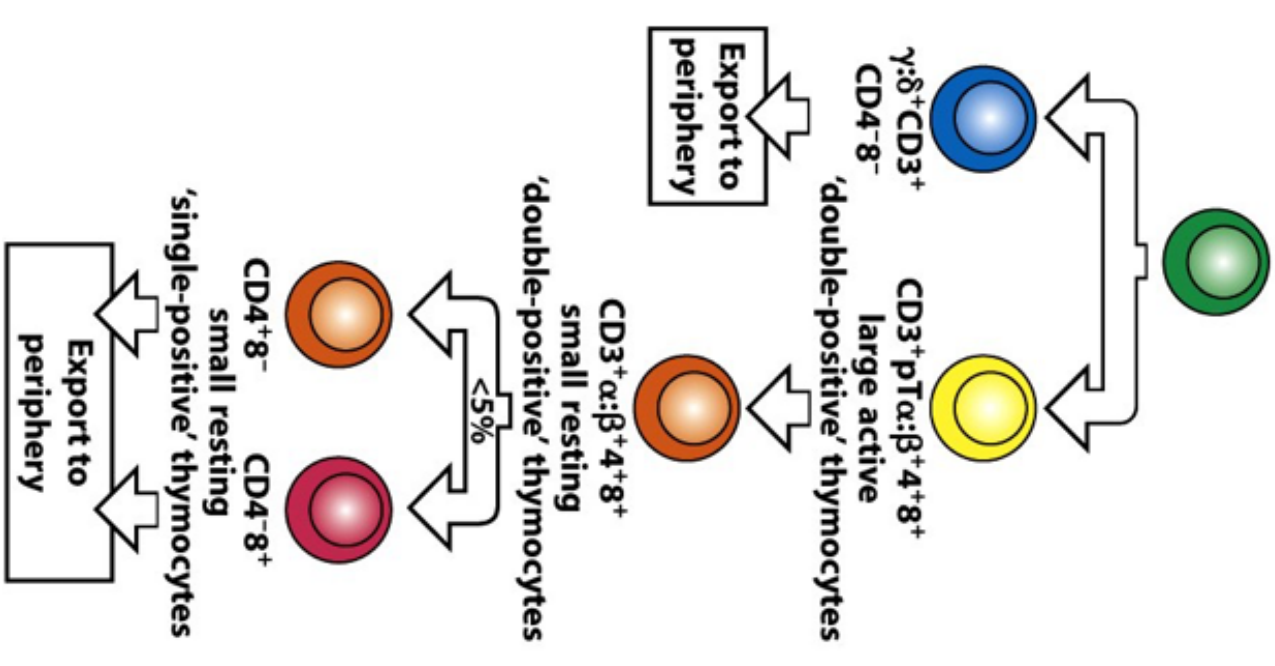
Distribution	IgM	IgD	IgG1	IgG2	IgG3	IgG4	IgA	IgE
Transport across epithelium	+	-	-	-	-	-	+++ (dimer)	-
Transport across placenta	-	-	+++	+	++	++	-	-
Diffusion into extravascular sites	+/-	-	+++	+++	+++	+++	+++ (monomer)	+
Mean serum level (mg ml <sup>-1</sup> )	1.5	0.04	9	3	1	0.5	2.1	3 × 10 <sup>-5</sup>

# II- Cellules de l'immunité adaptative

## Lymphocytes T

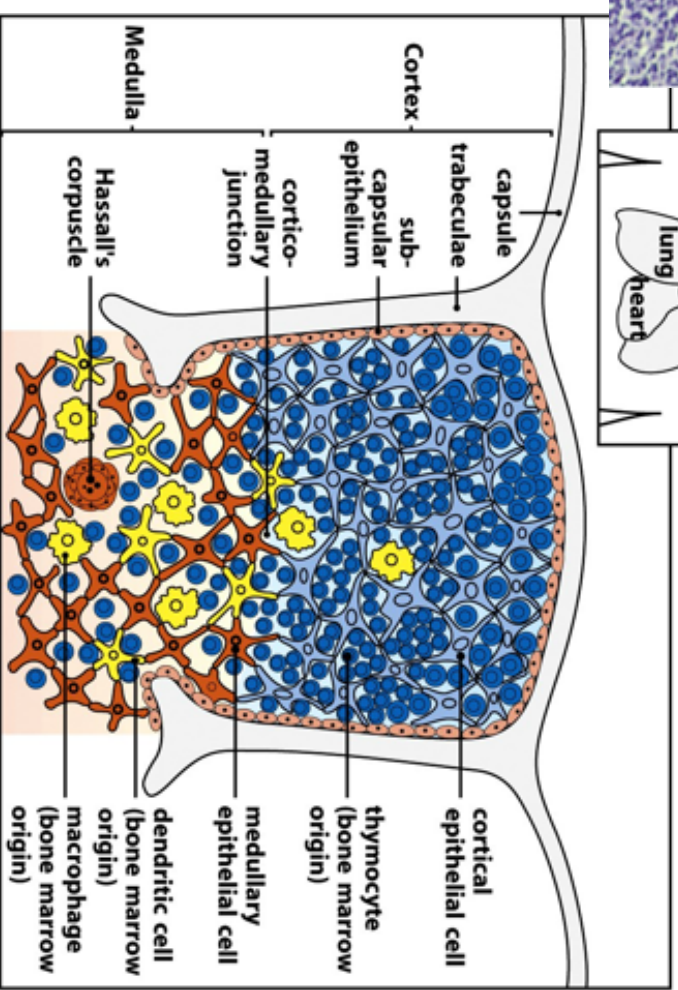
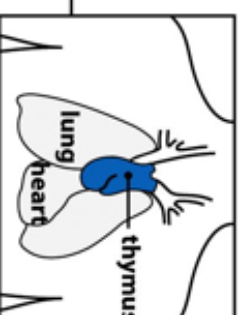
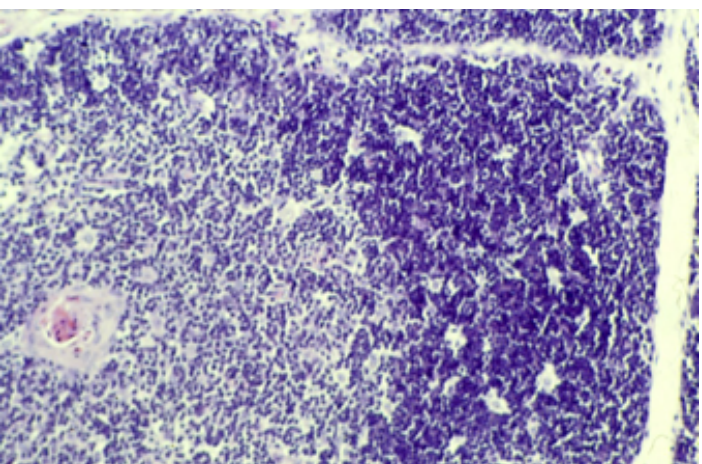
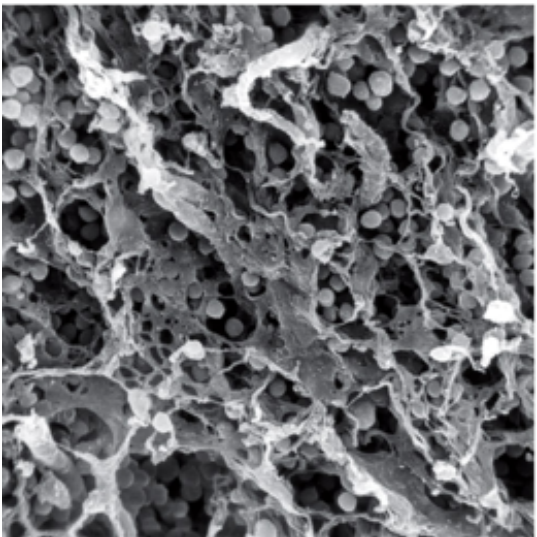


CD3<sup>-</sup>4<sup>-</sup>8<sup>-</sup>  
'double-negative' thymocytes



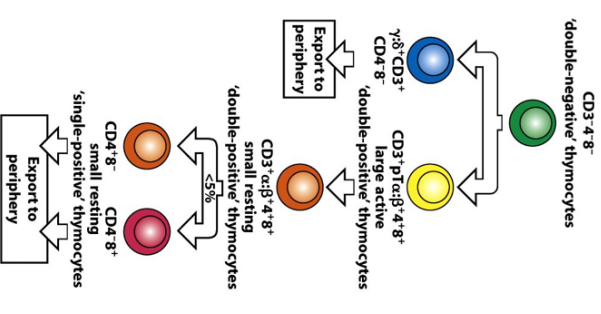
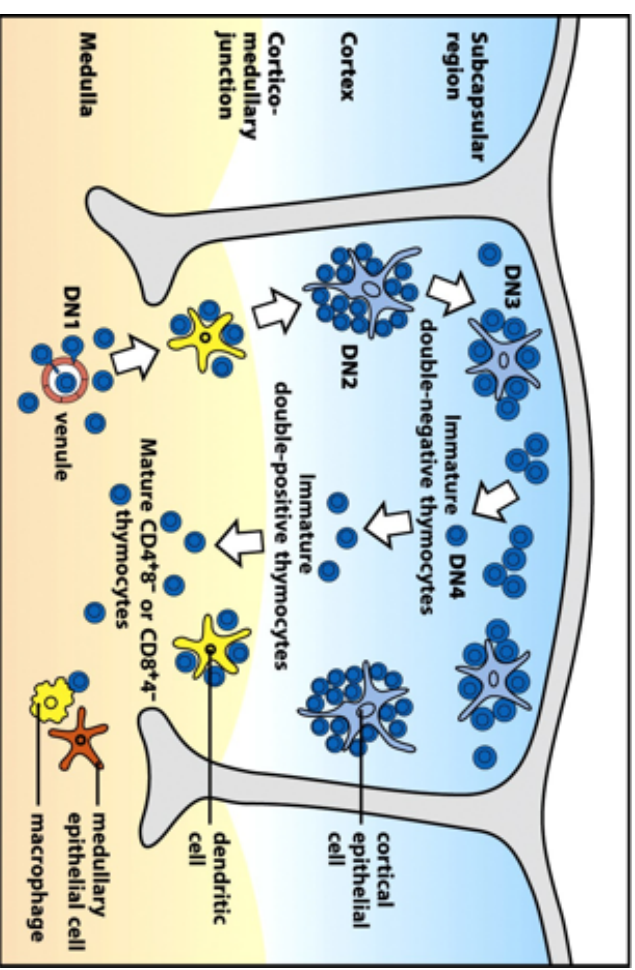
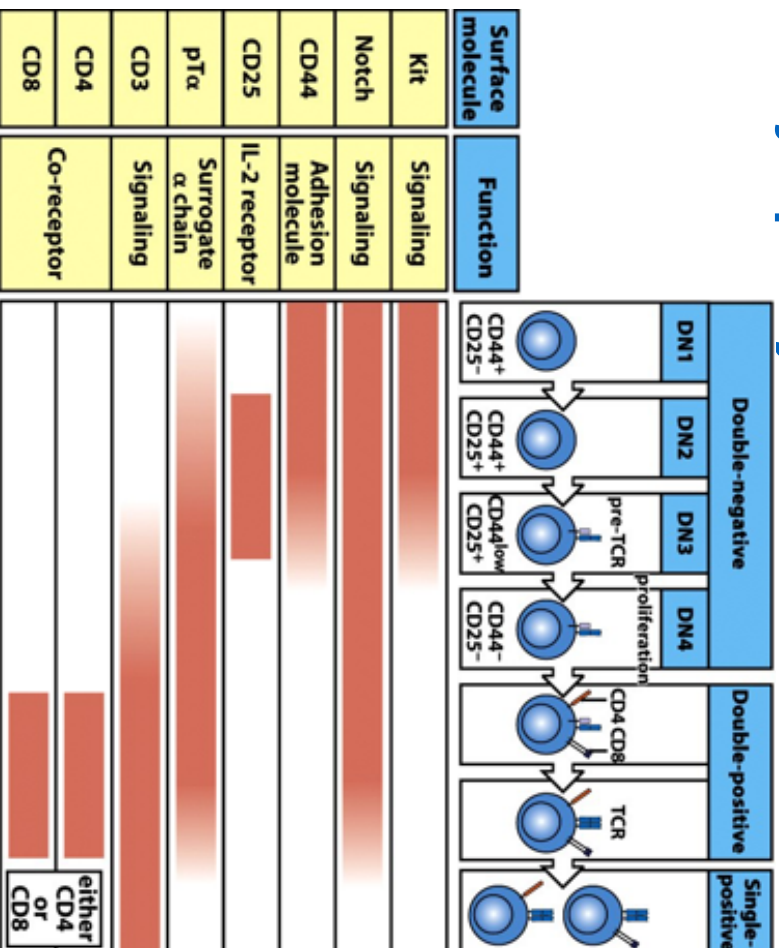
# II- Cellules de l'immunité adaptative

## Lymphocytes T



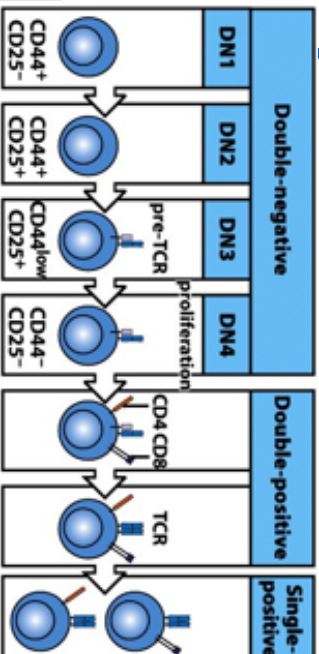
# II - Cellules de l'immunité adaptative

## Lymphocytes T $\alpha\beta$

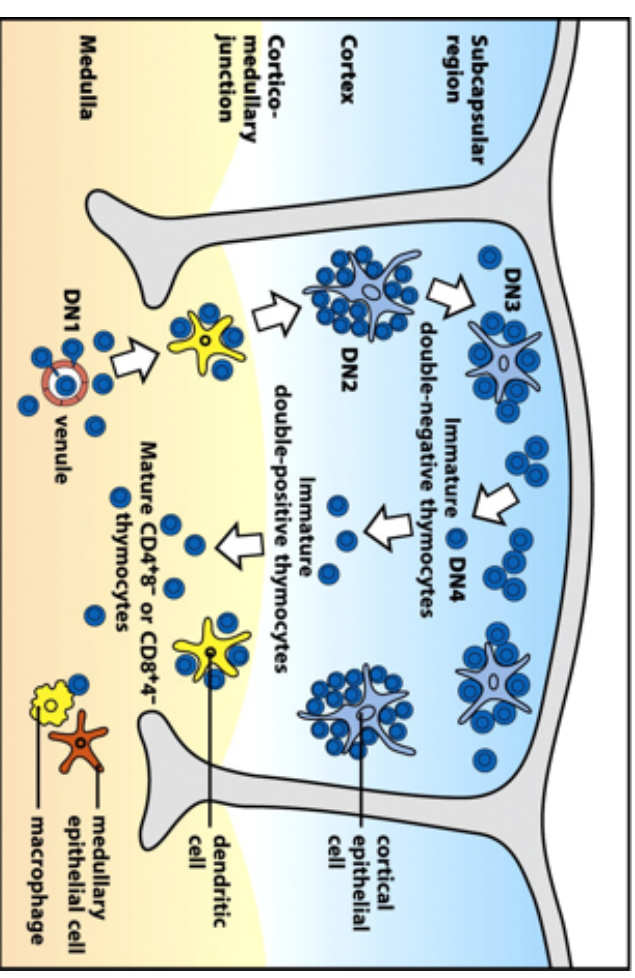
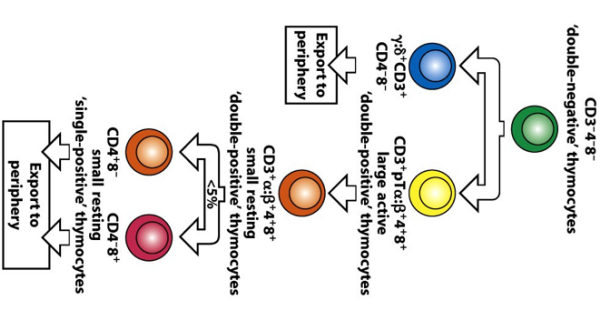


# II - Cellules de l'immunité adaptative

## Lymphocytes T $\alpha\beta$



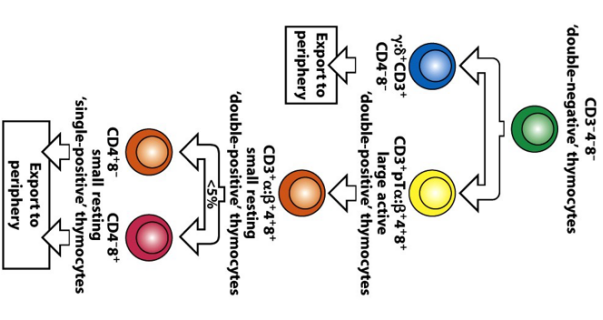
Surface molecule	Function
Kit	Signaling
Notch	Signaling
CD44	Adhesion molecule
CD25	IL-2 receptor
pT $\alpha$	Surrogate $\alpha$ chain
CD3	Signaling
CD4	Co-receptor
CD8	
<b>Rearrangement</b>	
D-J $\beta$	
V-DJ $\beta$	
V-J $\alpha$	



# II - Cellules de l'immunité adaptative

## Lymphocytes T $\alpha\beta$

Rearrangement	
D-J $\beta$	
V-DJ $\beta$	
V-J $\alpha$	

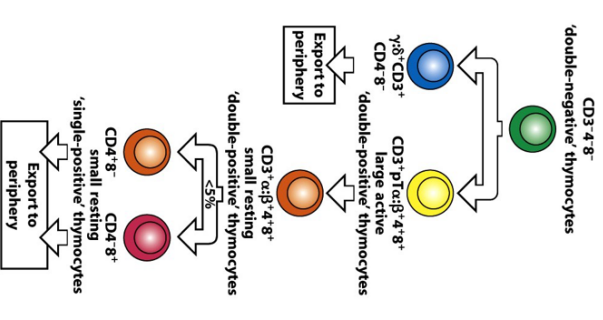
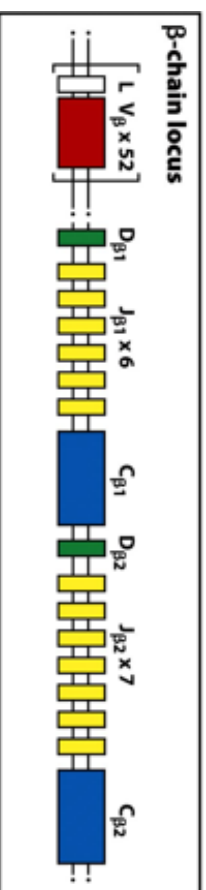




# II - Cellules de l'immunité adaptative

## Lymphocytes $T_{\alpha\beta}$

Rearrangement	
D-J $\beta$	
V-DJ $\beta$	
V-J $\alpha$	



# II - Cellules de l'immunité adaptative

## Lymphocytes $T_{\alpha\beta}$

Rearrangement	
D-J $\beta$	
V-DJ $\beta$	
V-J $\alpha$	

