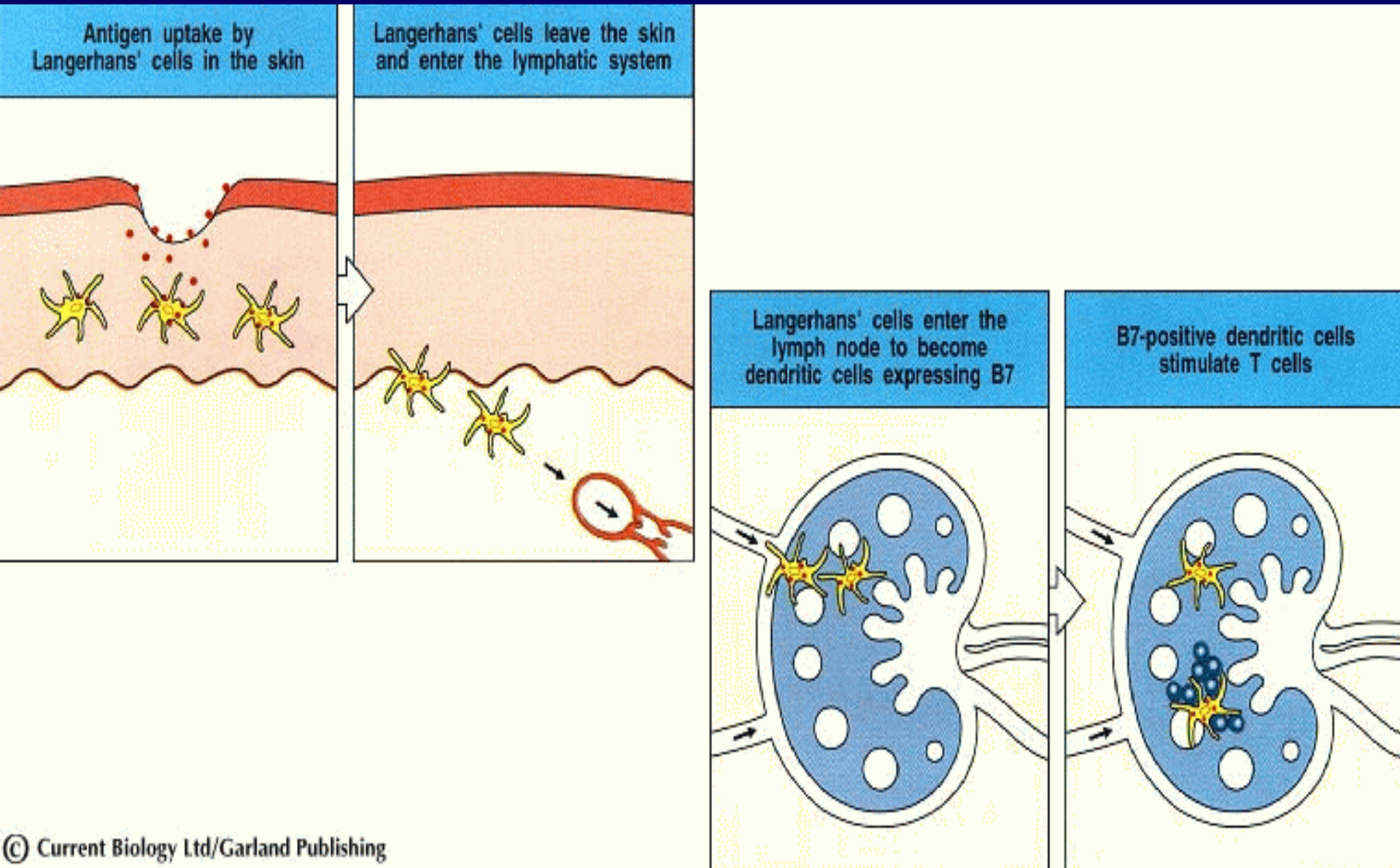


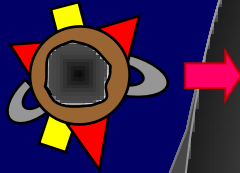
Langerhans' cells can take up antigen in the skin and migrate to lymphoid organs where they present it to T cells



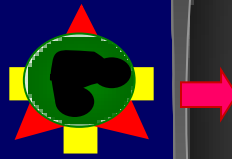
Homing to PLN



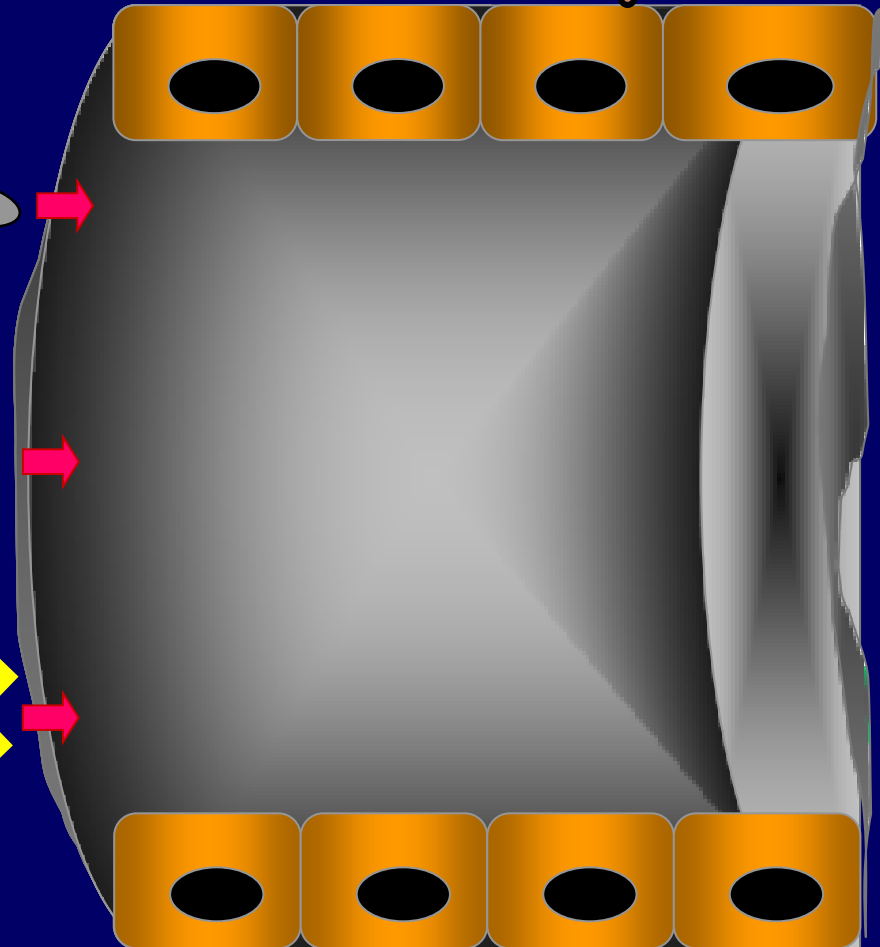
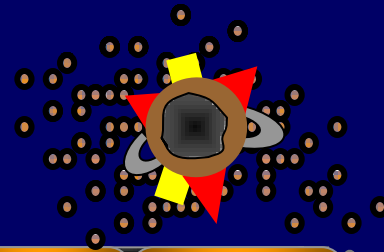
Naïve
Lymphocyte



PMN

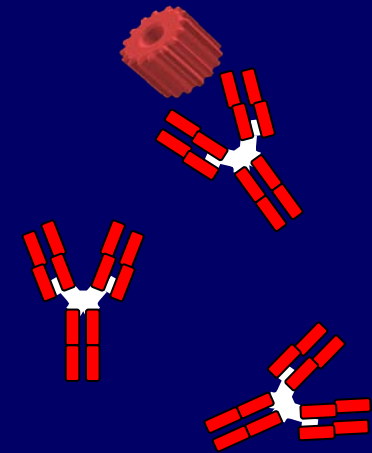
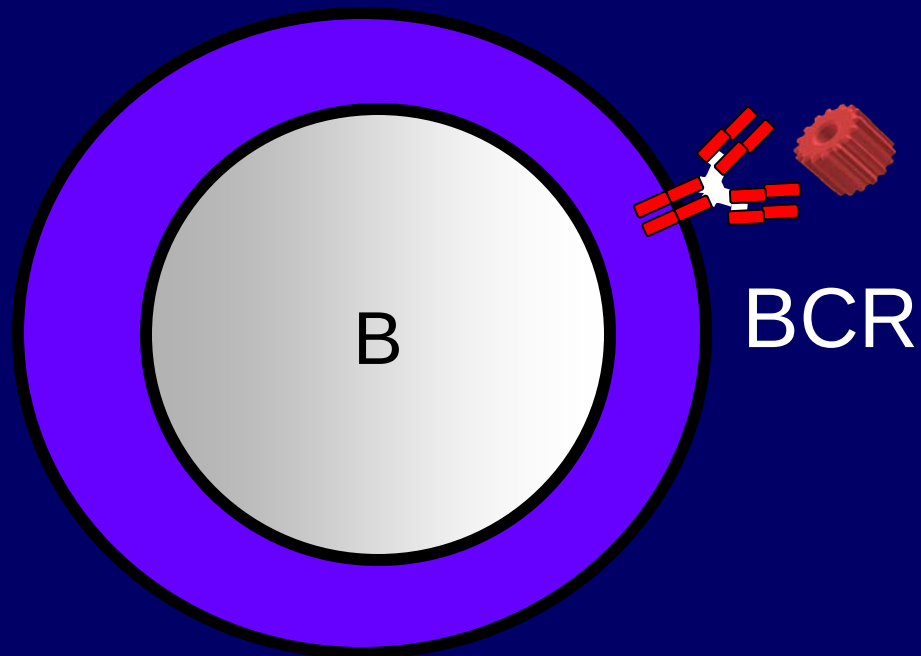


Memory
Lymphocyte

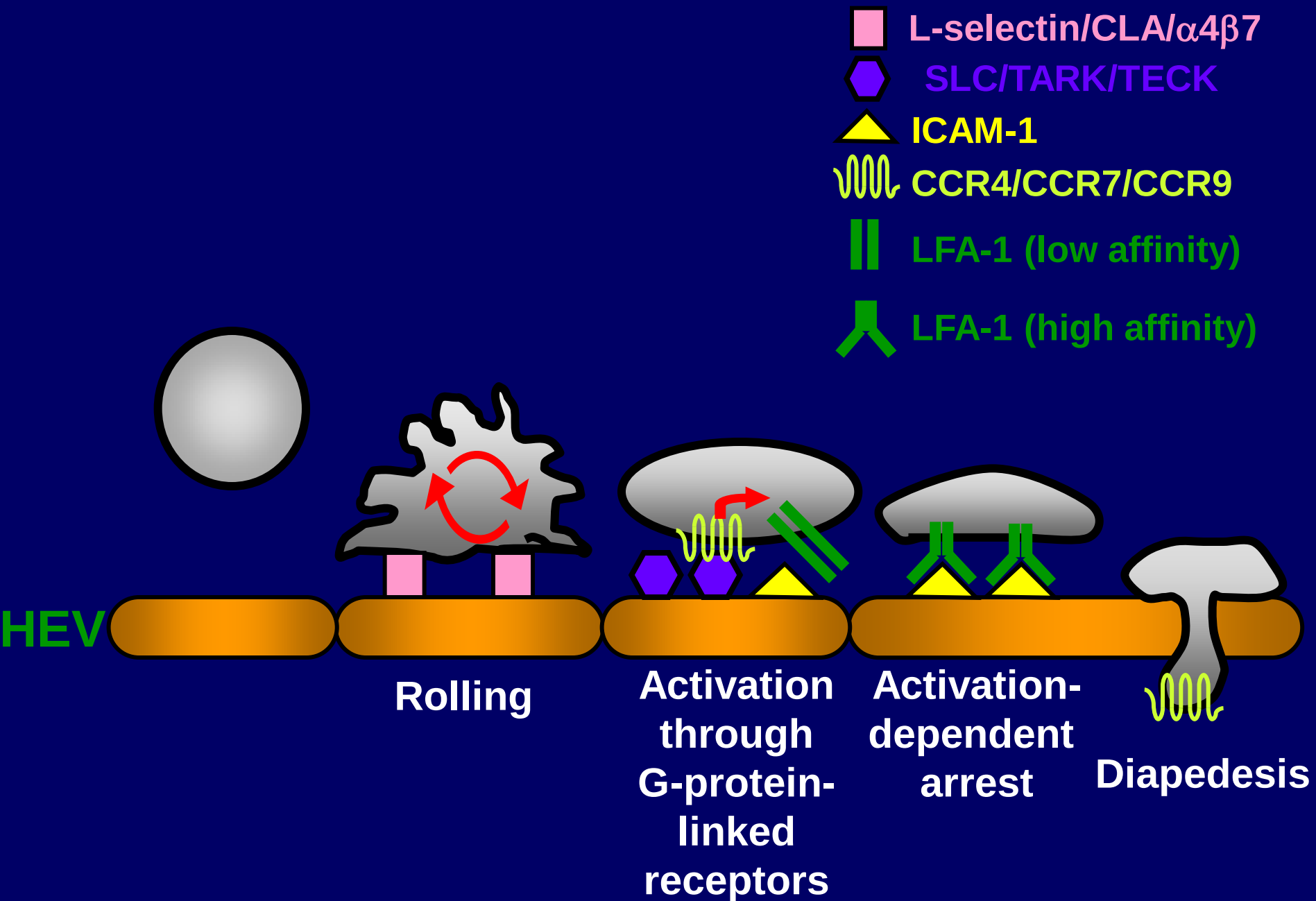


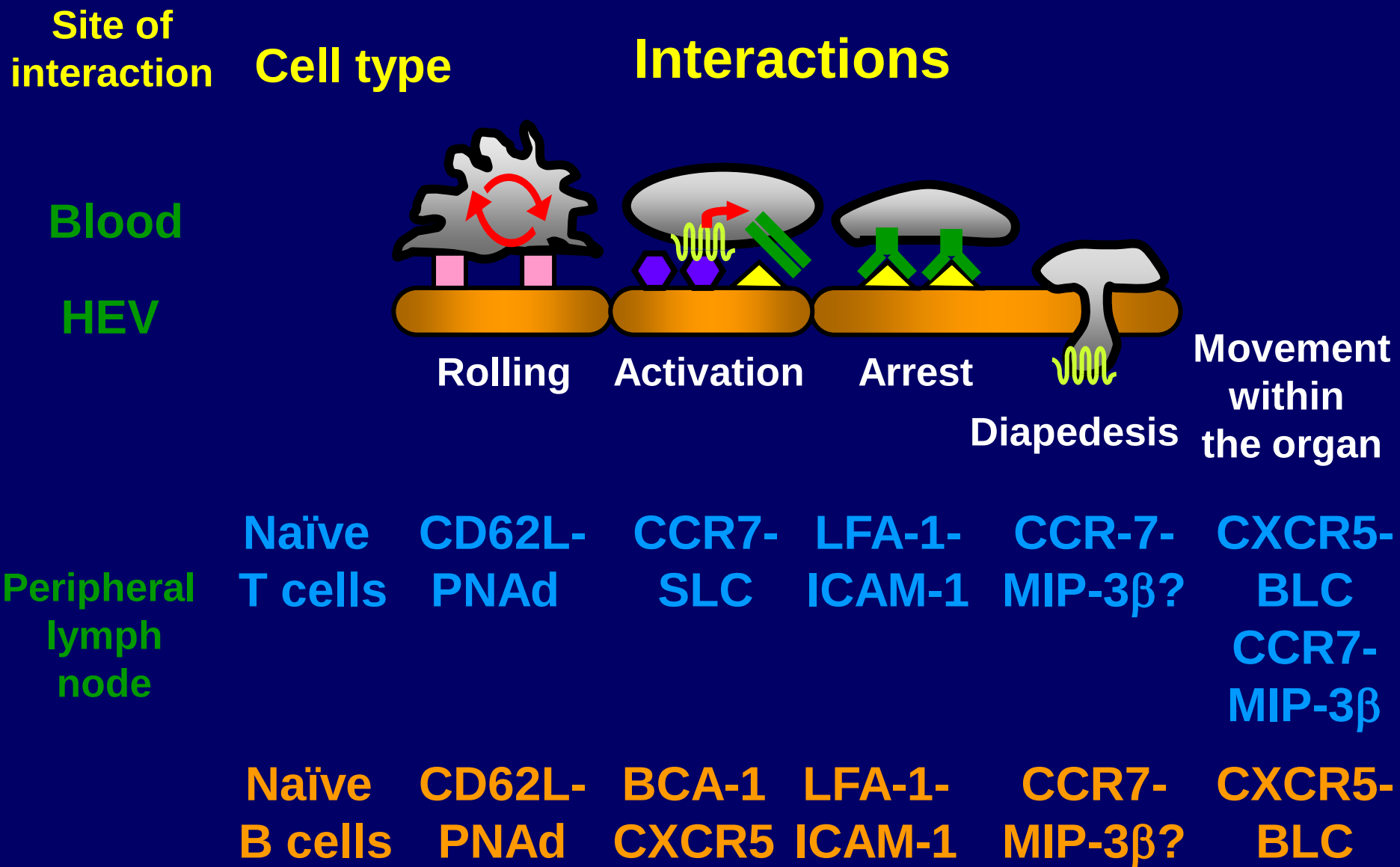
B cell trafficking

B cell

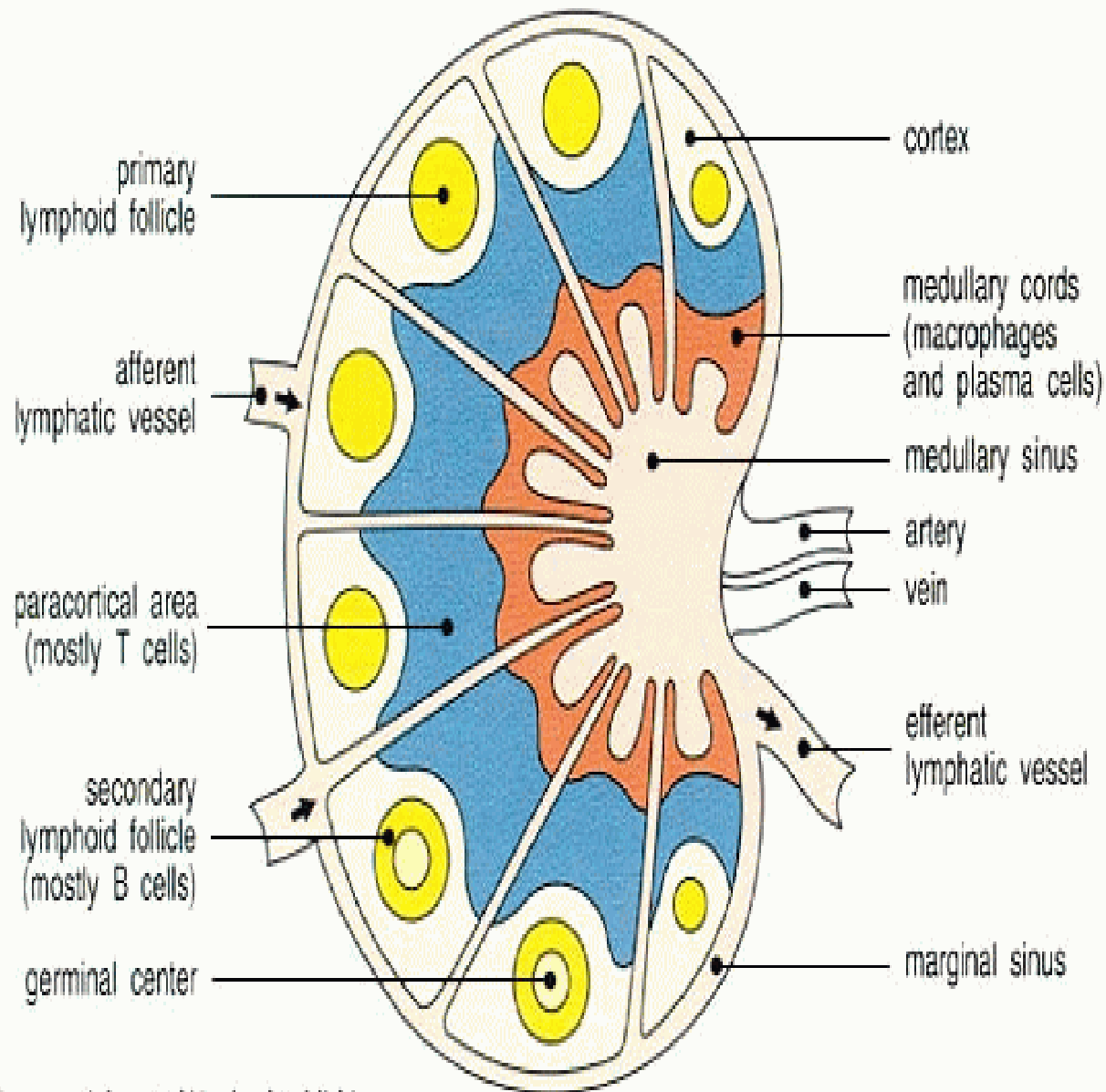


Antibodies



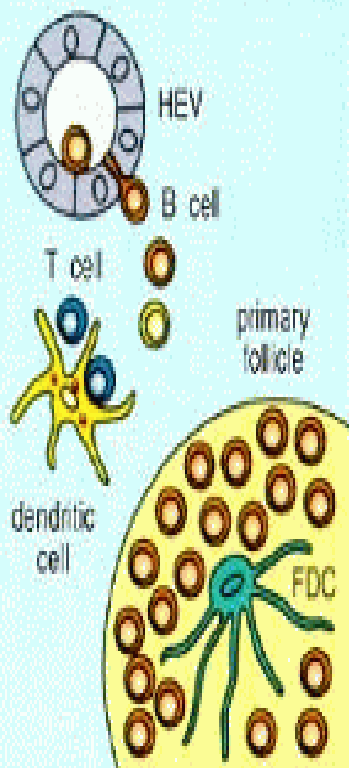


The lymph node

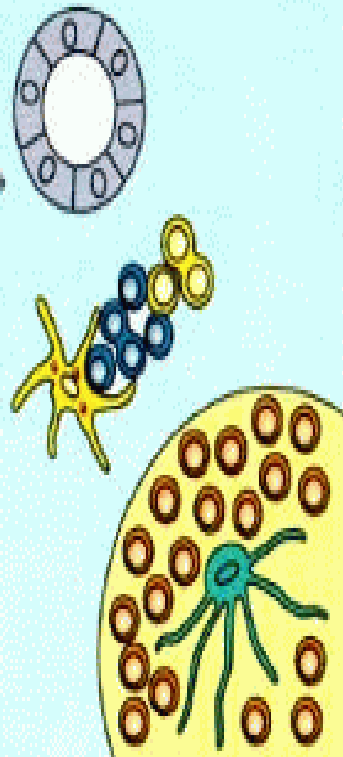


The specialized regions of lymphoid tissue provide an environment where antigen-specific B cells can interact with armed helper T cells specific for the same antigen.

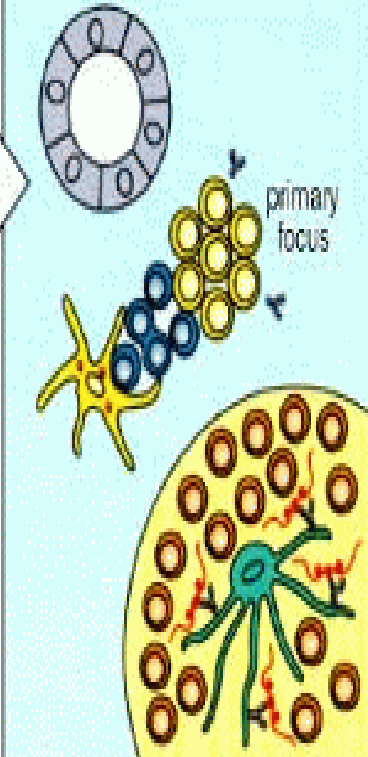
Recirculating B cells enter lymphoid organs through high endothelial venules and migrate to the primary follicle



Antigen-specific B cells are stimulated to proliferate by specific activated helper T cells



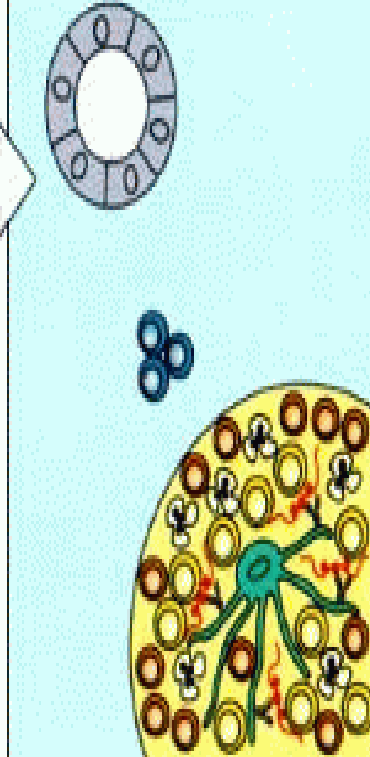
Proliferating B cells form a primary focus and secrete antibody, which forms antigen:antibody complexes on follicular dendritic cells



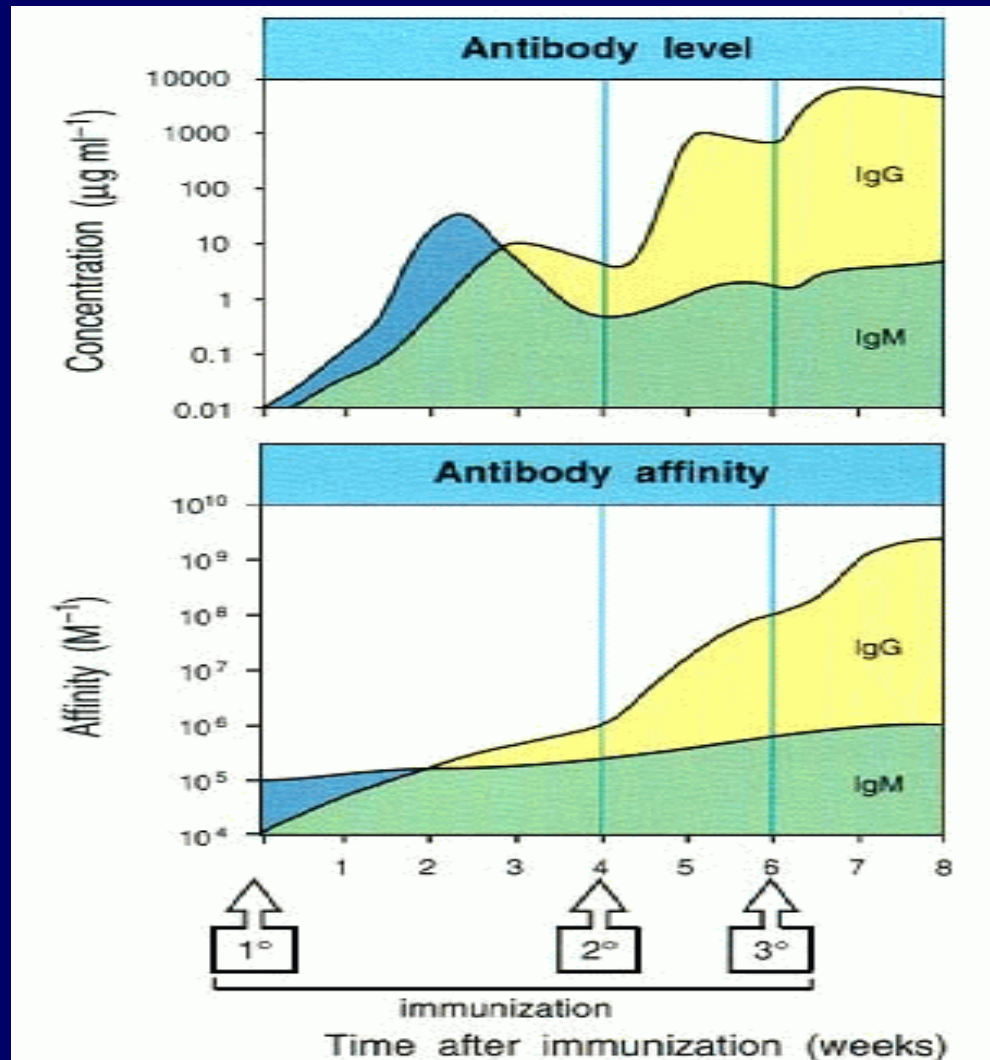
One or a few B cells migrate into a nearby follicle forming a germinal center where rapid proliferation and somatic mutation occur



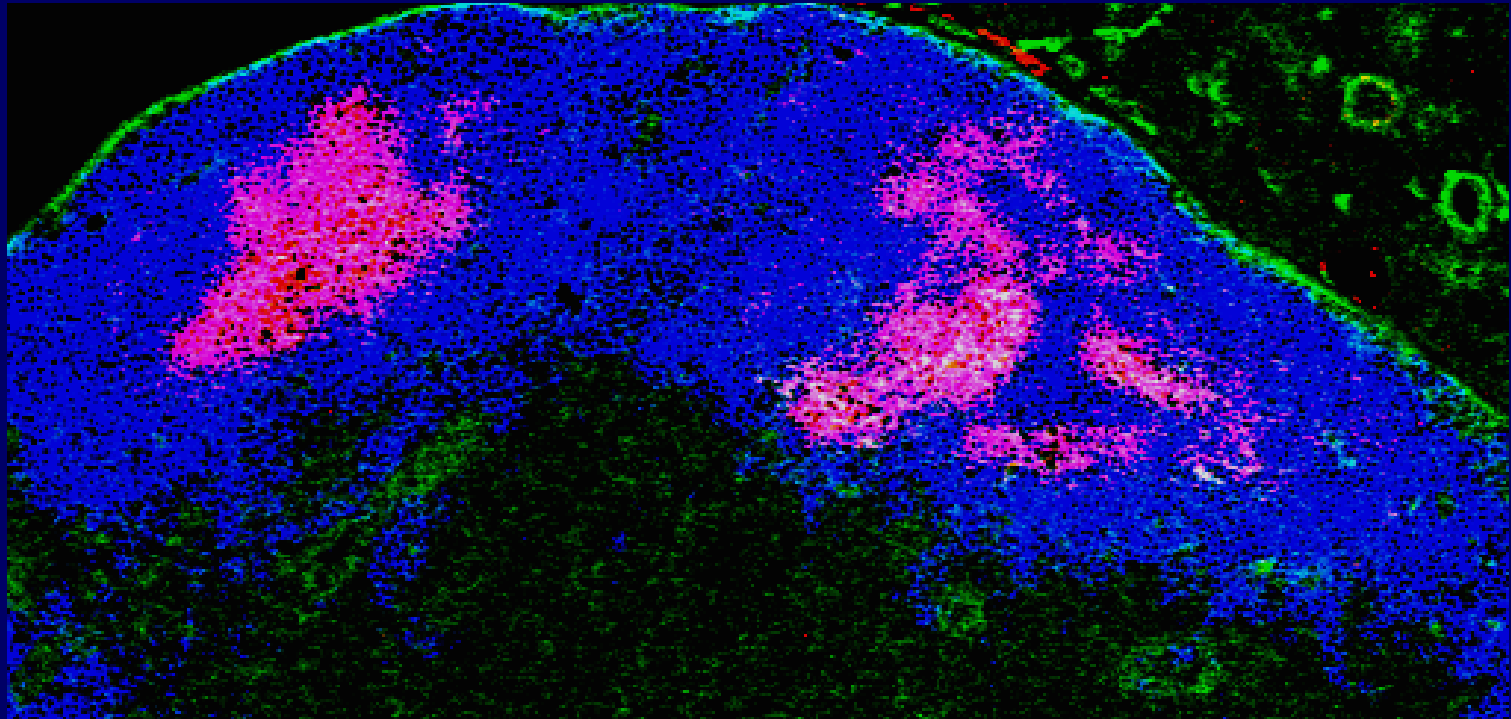
Somatically mutated B cells that retain the capacity to bind antigen on follicular dendritic cells survive, while other B cells die



The affinity as well as the amount of antibody increases with repeated immunization

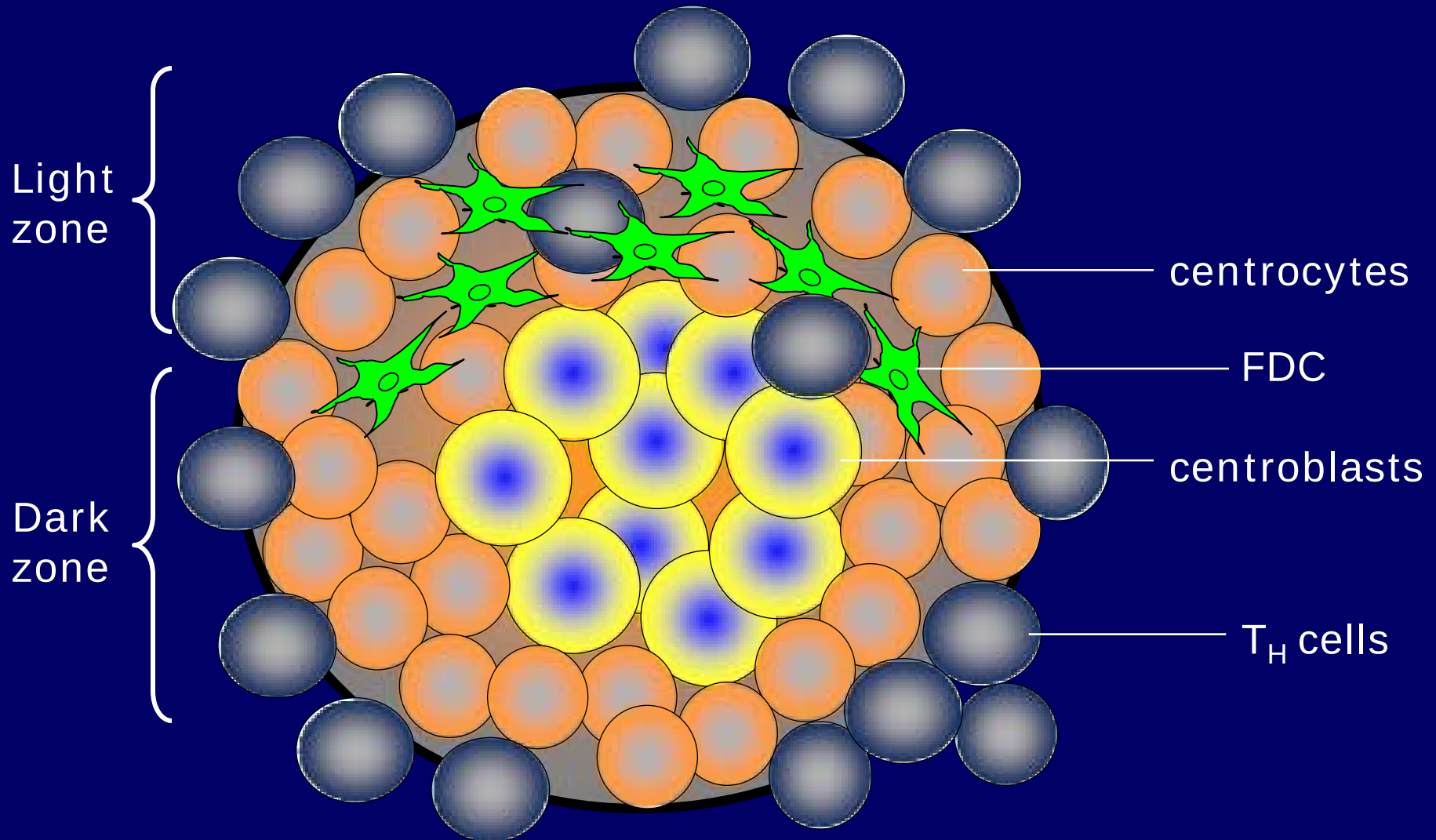


Architecture of Follicle

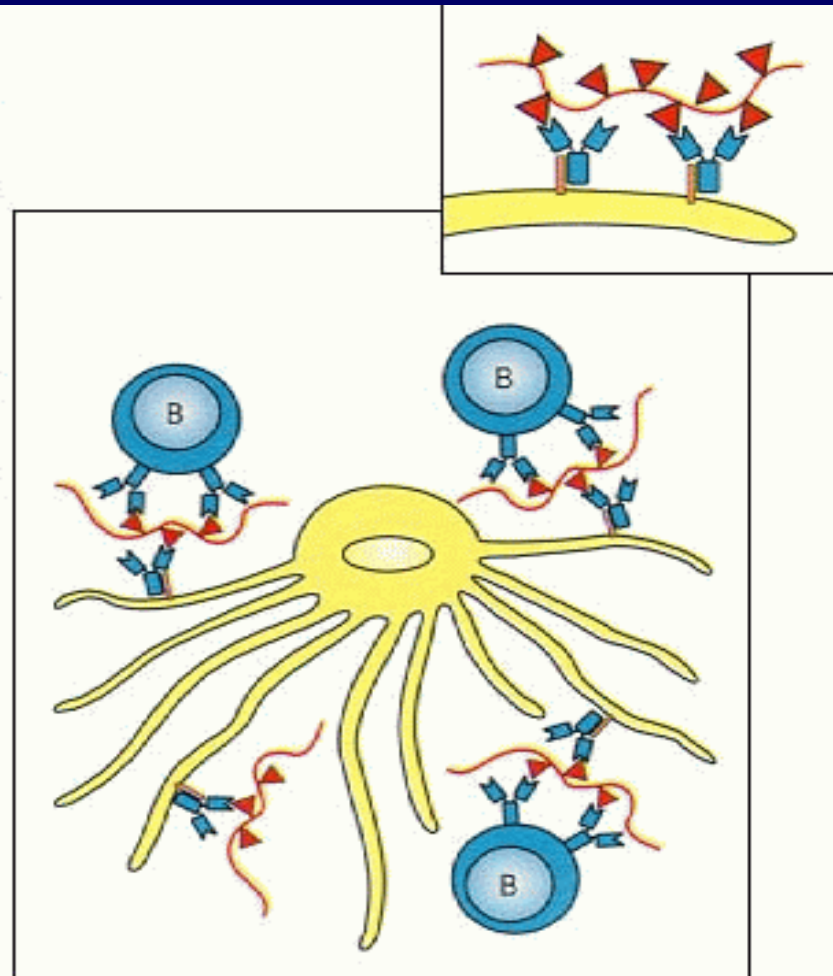
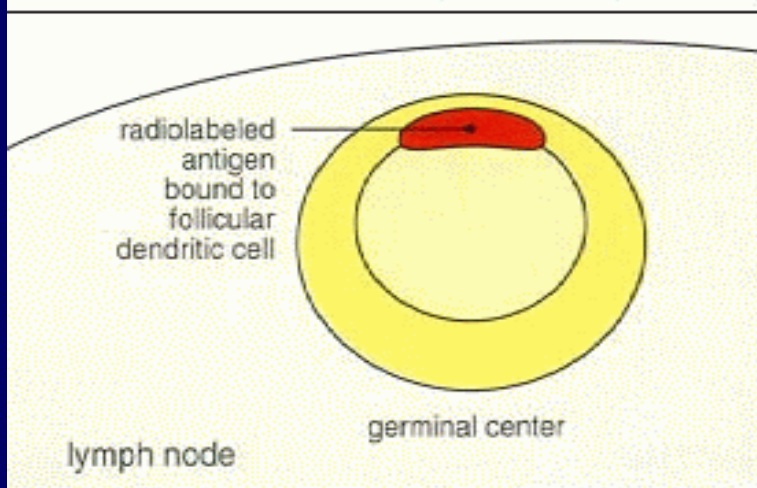
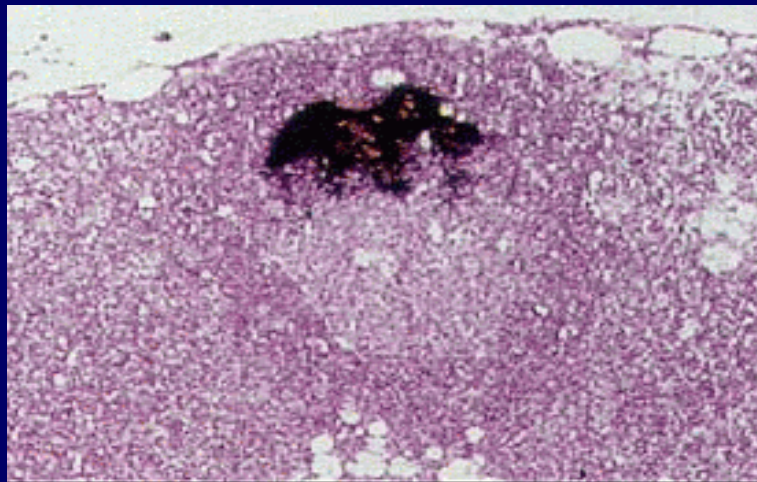


B220 B cells
CD23 FDC

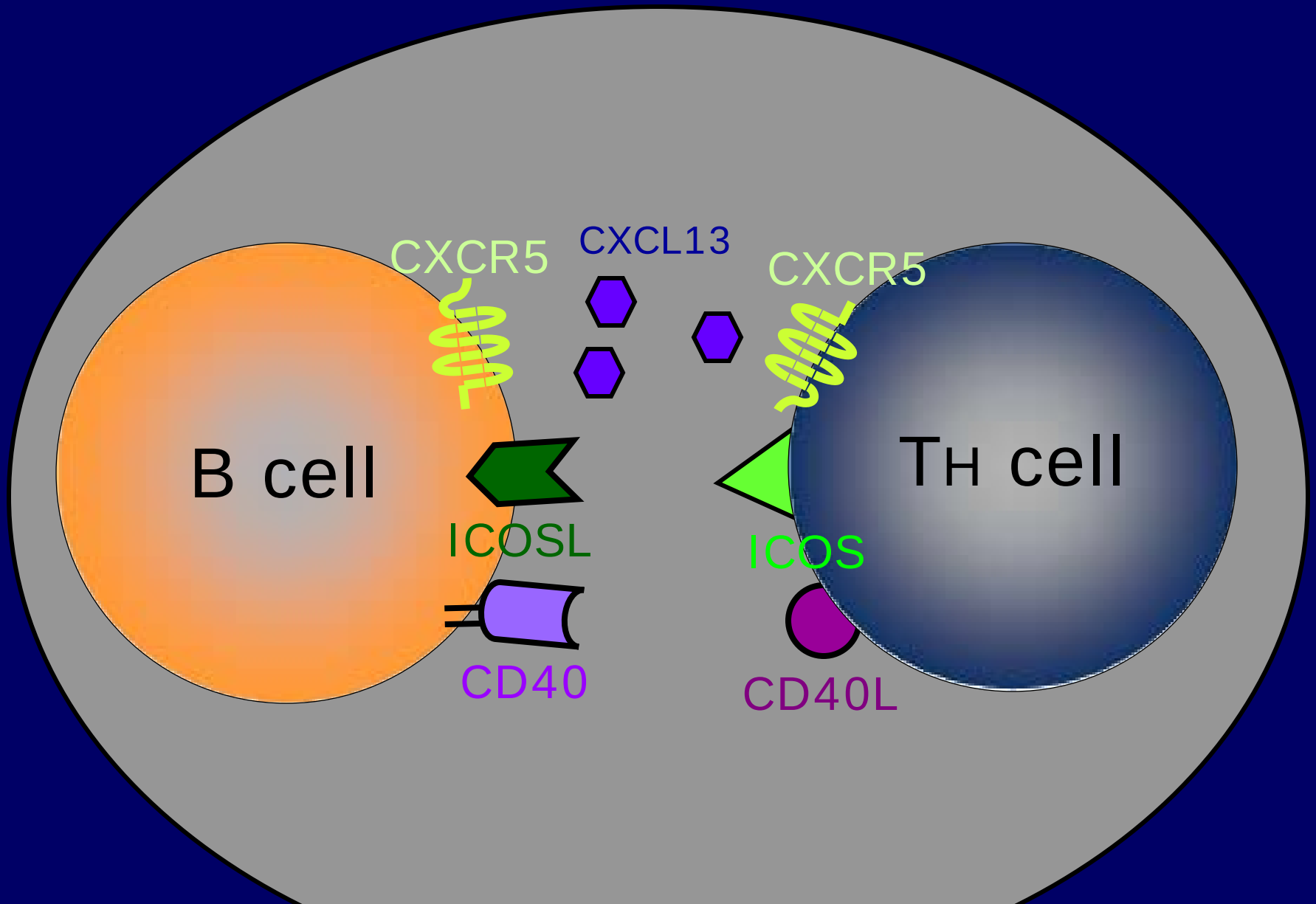
Germinal centers



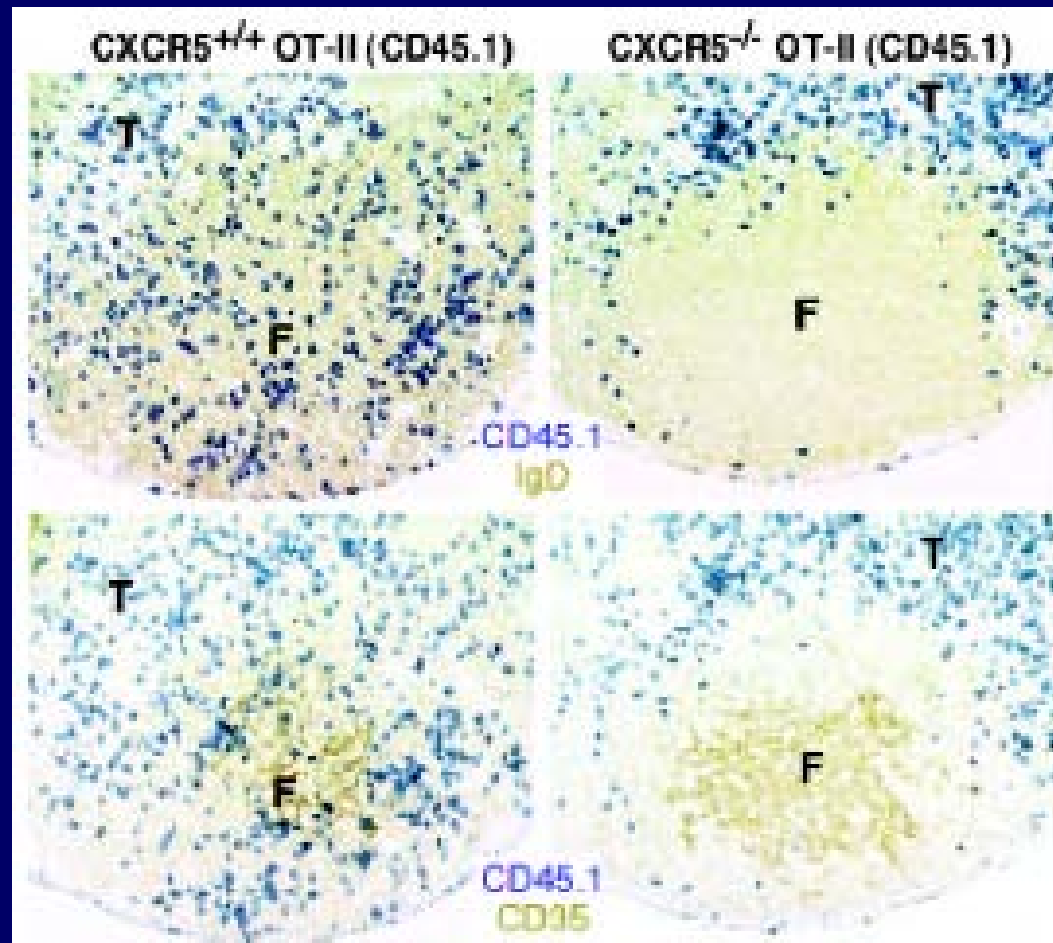
B cells recognize antigen as immune complexes bound to the surface of follicular dendritic cells.



Germinal center



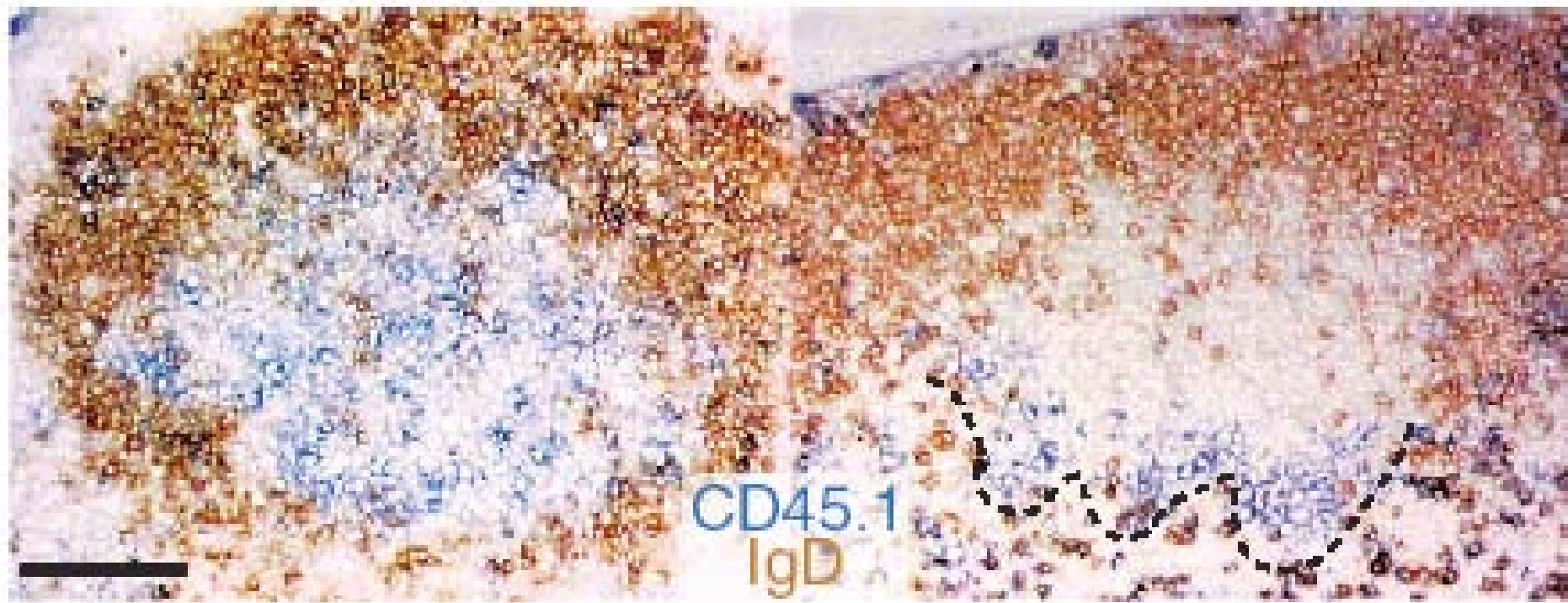
CXCR5 is required for T cell follicular homing



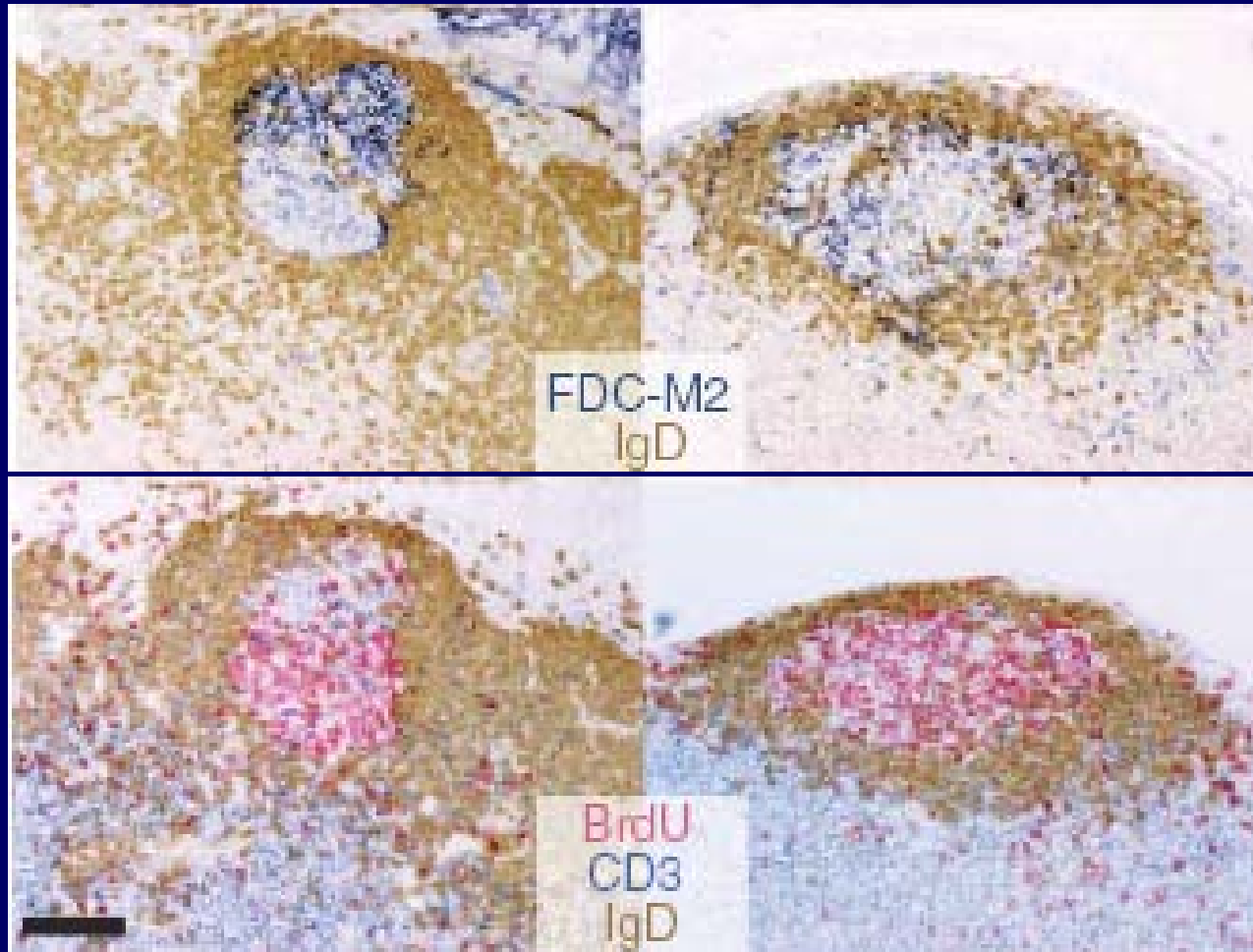
CXCR5 and CXCL13 function in determining light zone position

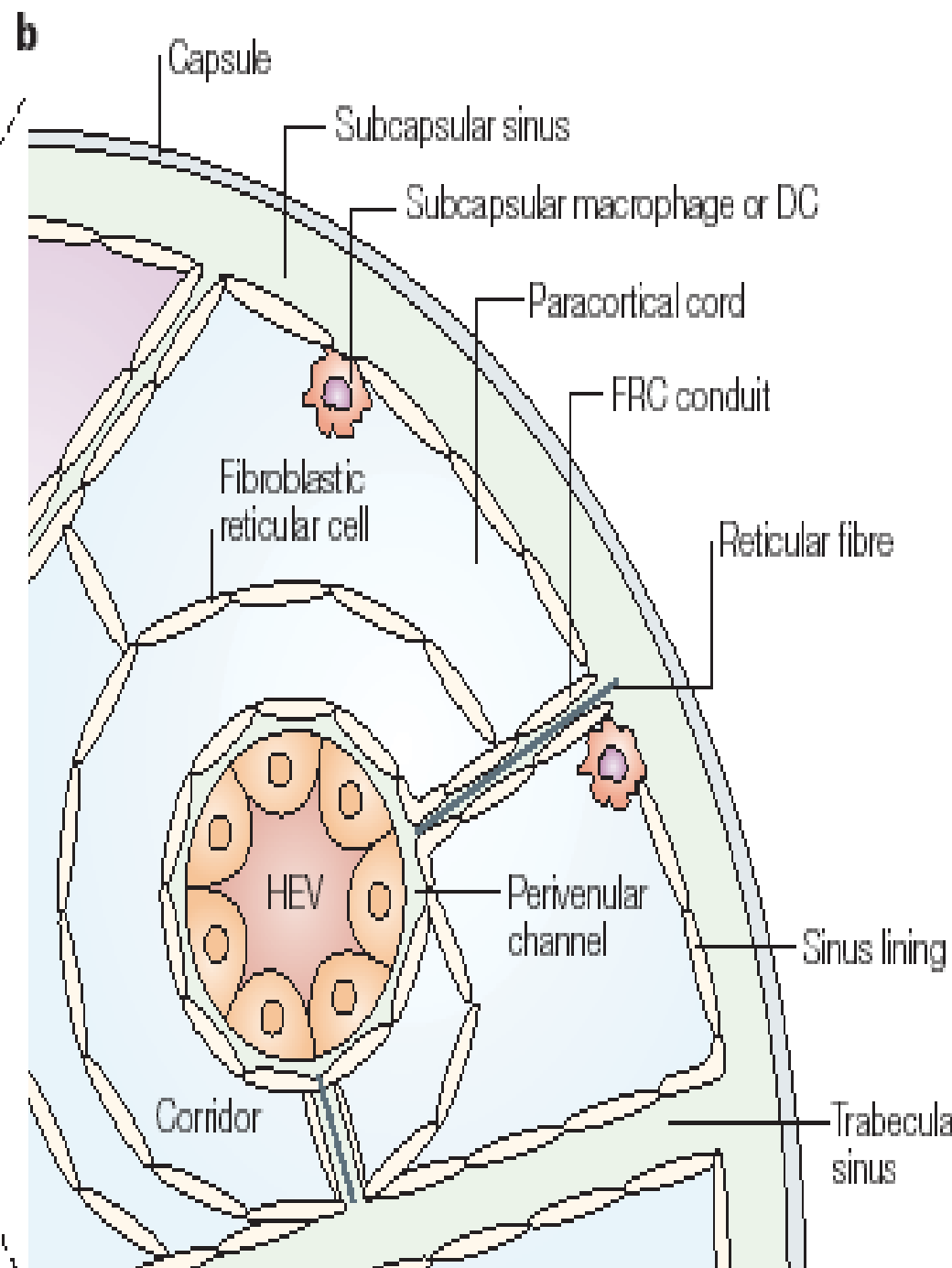
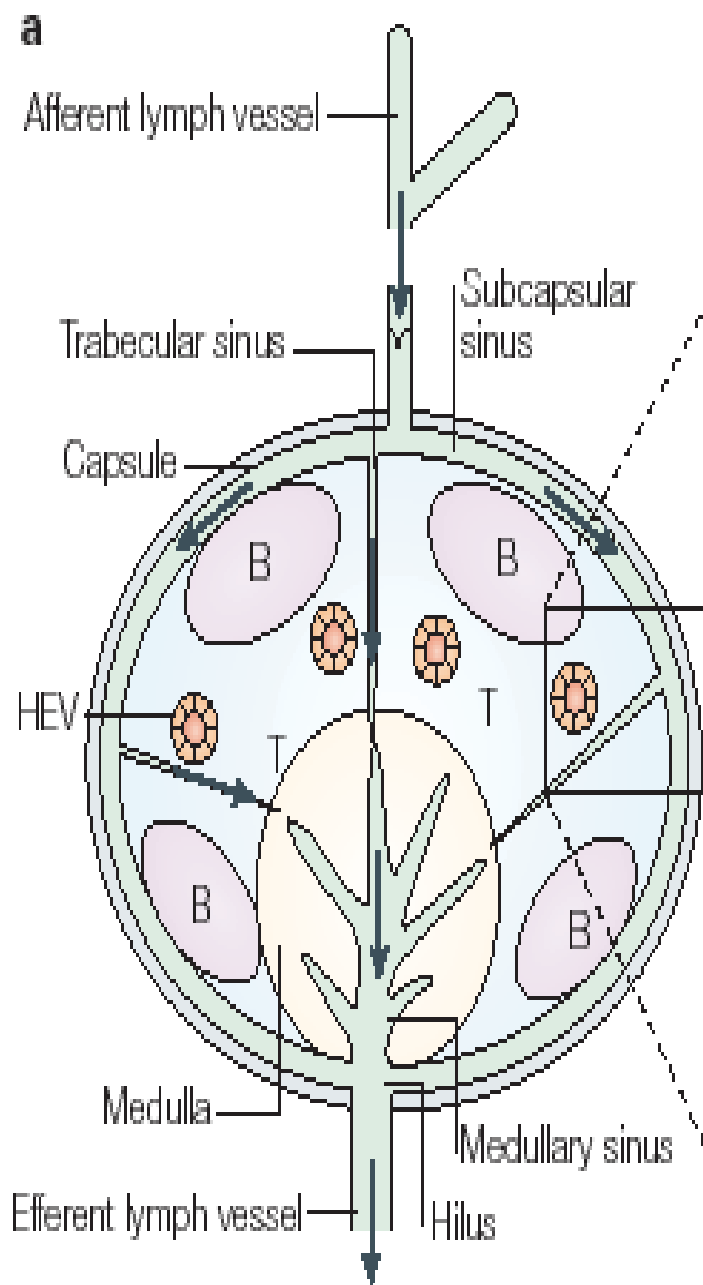
CD45.1: *Cxcr5*^{+/+} B cells

CD45.1: *Cxcr5*^{-/-} B cells

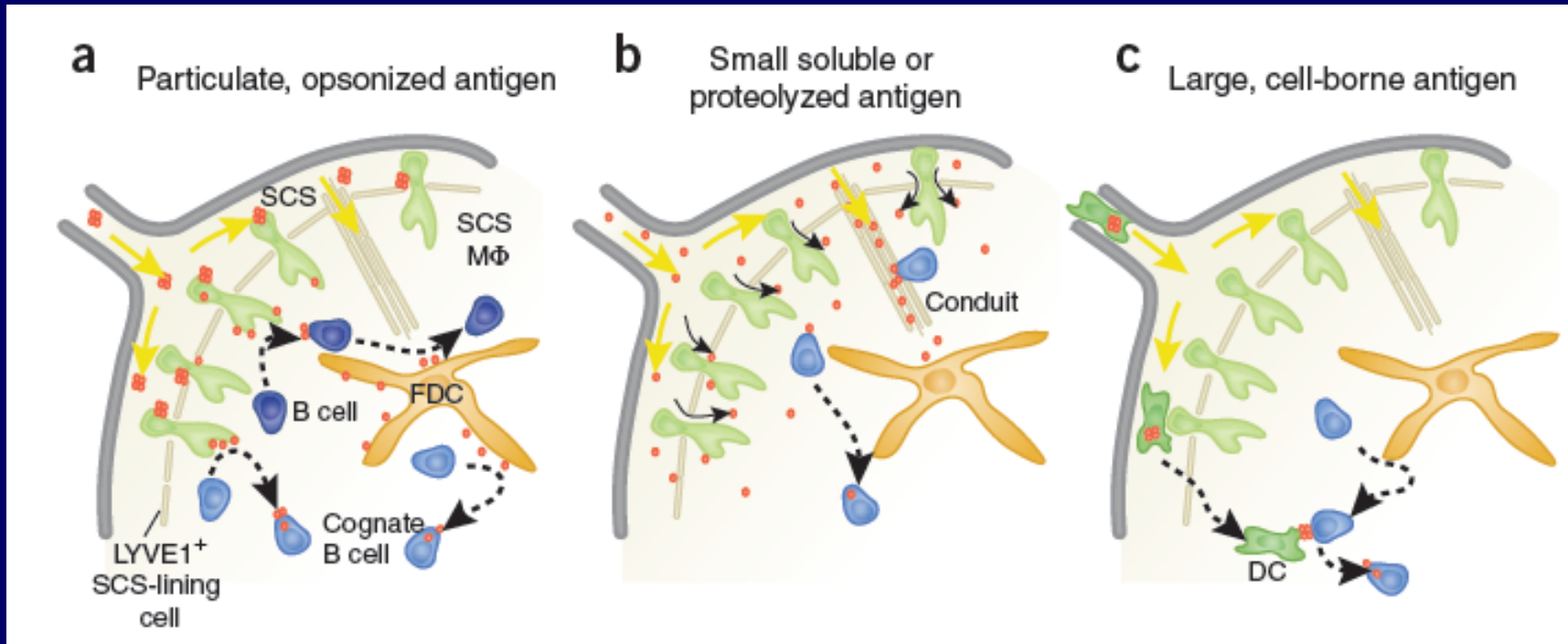


CXCR4 deficiency results in GC disorganization

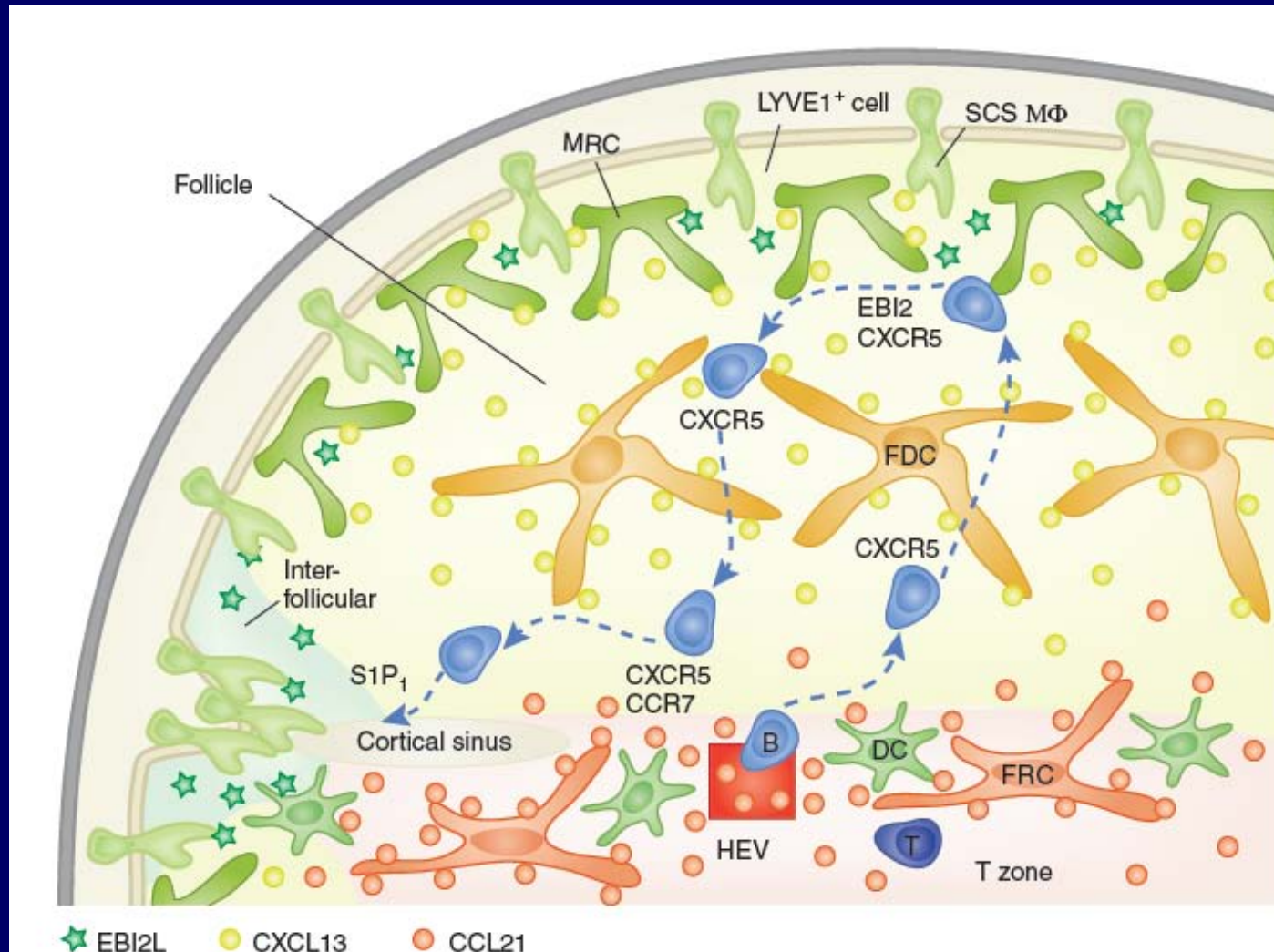




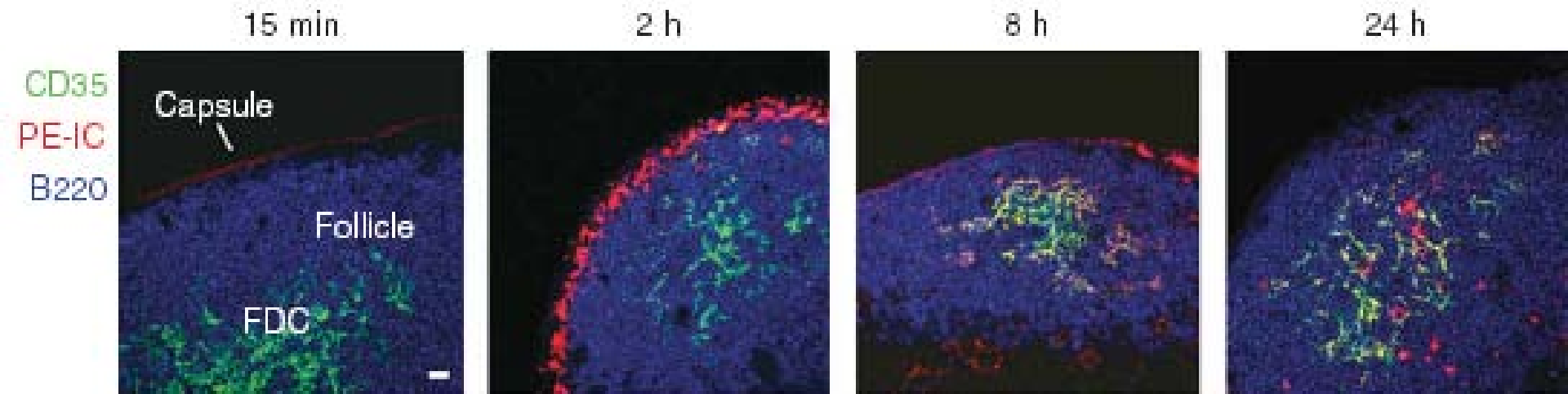
Multiple modes for the encounter of follicular B cells with antigen



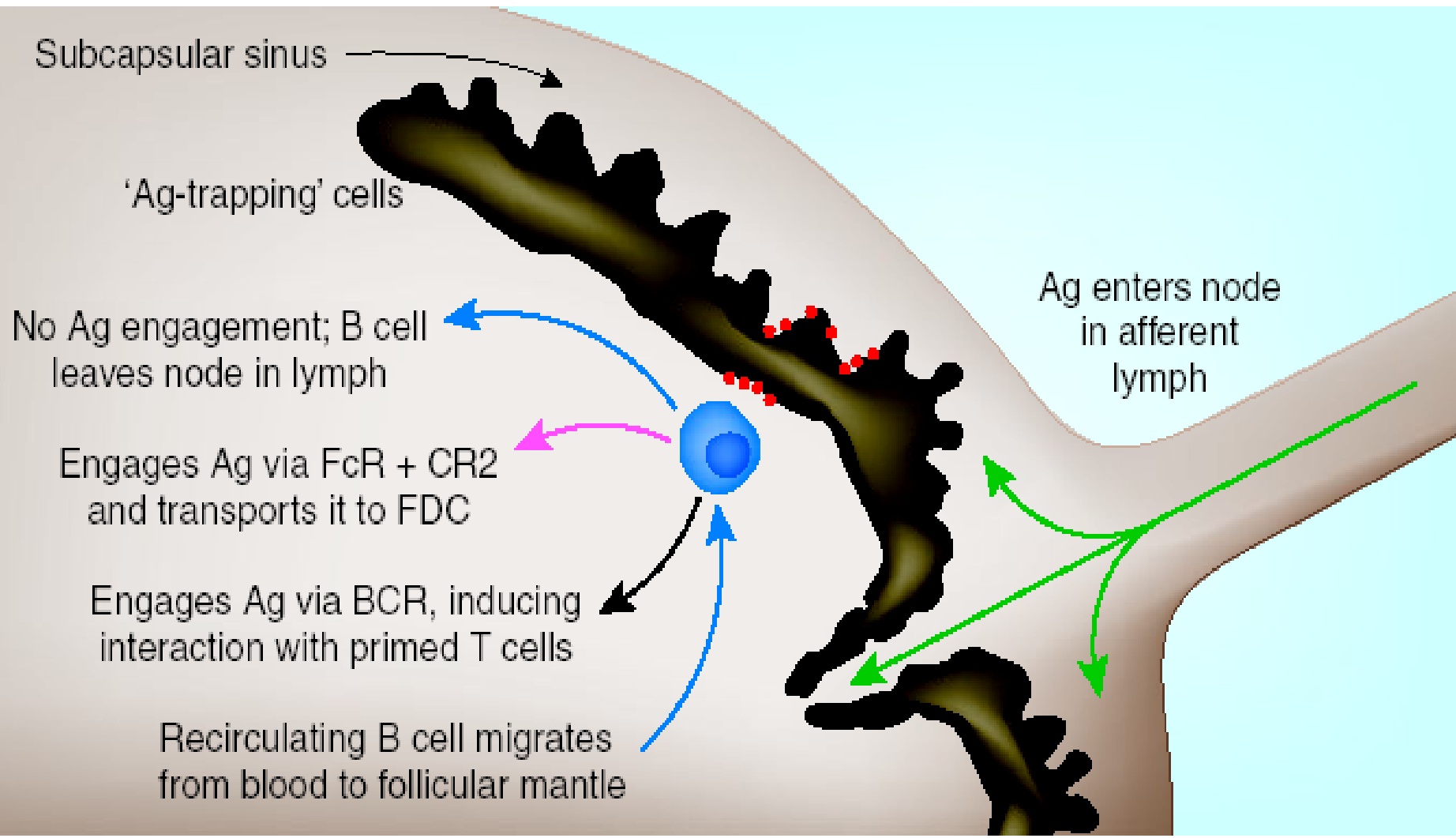
Multiple cues direct B cell migration



Deposition of Ag-Ig (PE-IC) complexes occurs in distinct phases



B cells “screen” antigen trapped on cells in SCS of LN



Inflammation

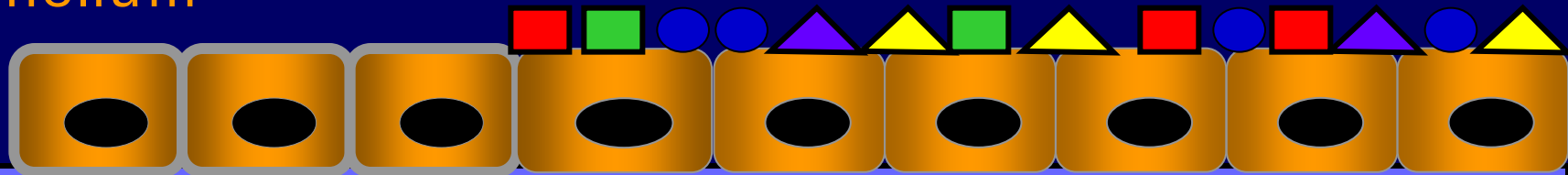
Expression pattern of naïve and activated lymphocytes

CD4	CD62L	VLA-4	LFA-1	CD2	CD4	TCR	CD44	CD45 RA	CD45 RO
N	+	-	+	+	+	+	+	+	-
A	-	+	++	++	+	+	++	-	+

„Inflamed endothelium”

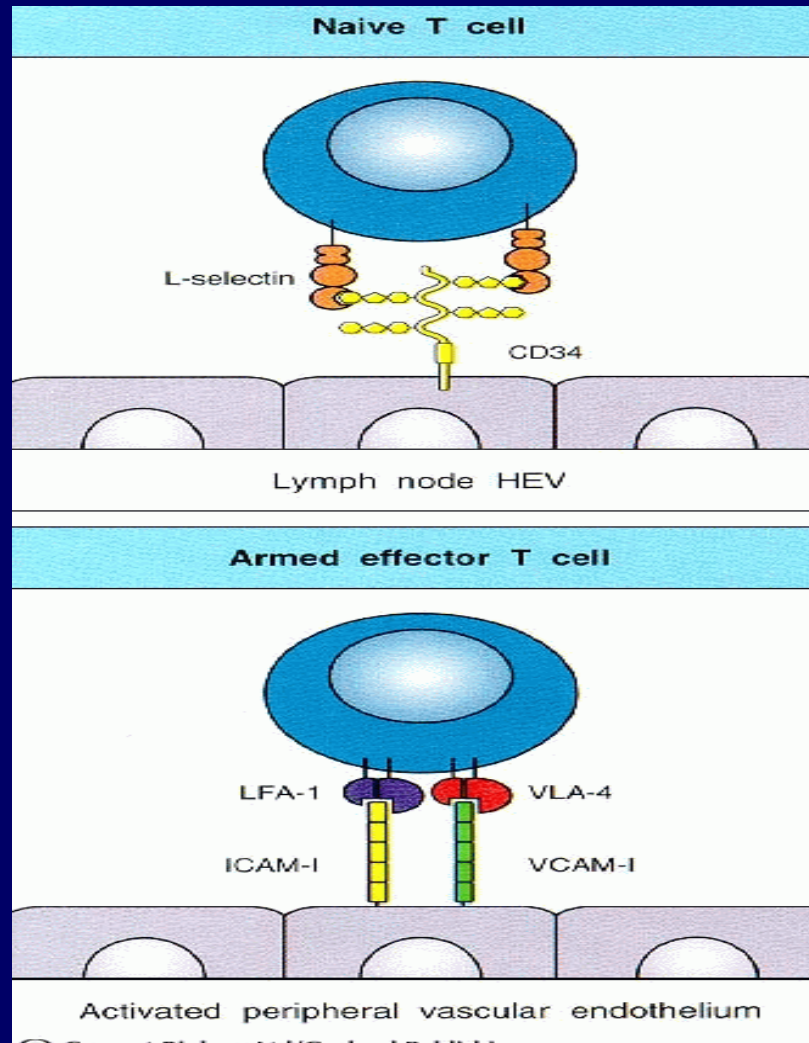
- E-selectin
- P-selectin
- Chemokine
- ▲ ICAM-1
- ▲ VCAM-1

Endothelium

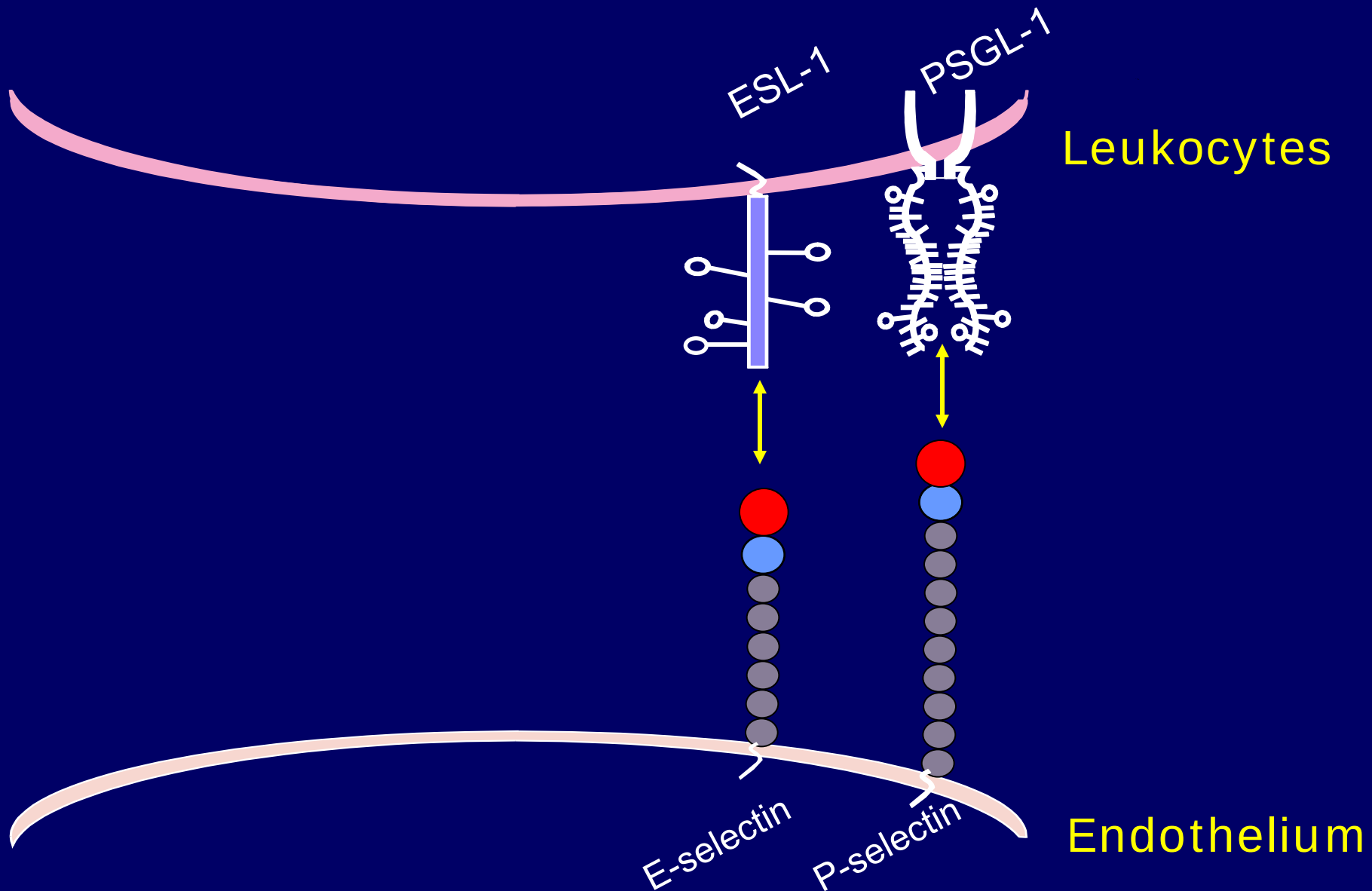


Inflammation

Armed effector T cells change their surface molecules so that they can home to sites of infection via the blood.



Selectin Ligands



Phagocytic leukocytes are directed to sites of infection through interactions between adhesion molecules induced by cytokines.

