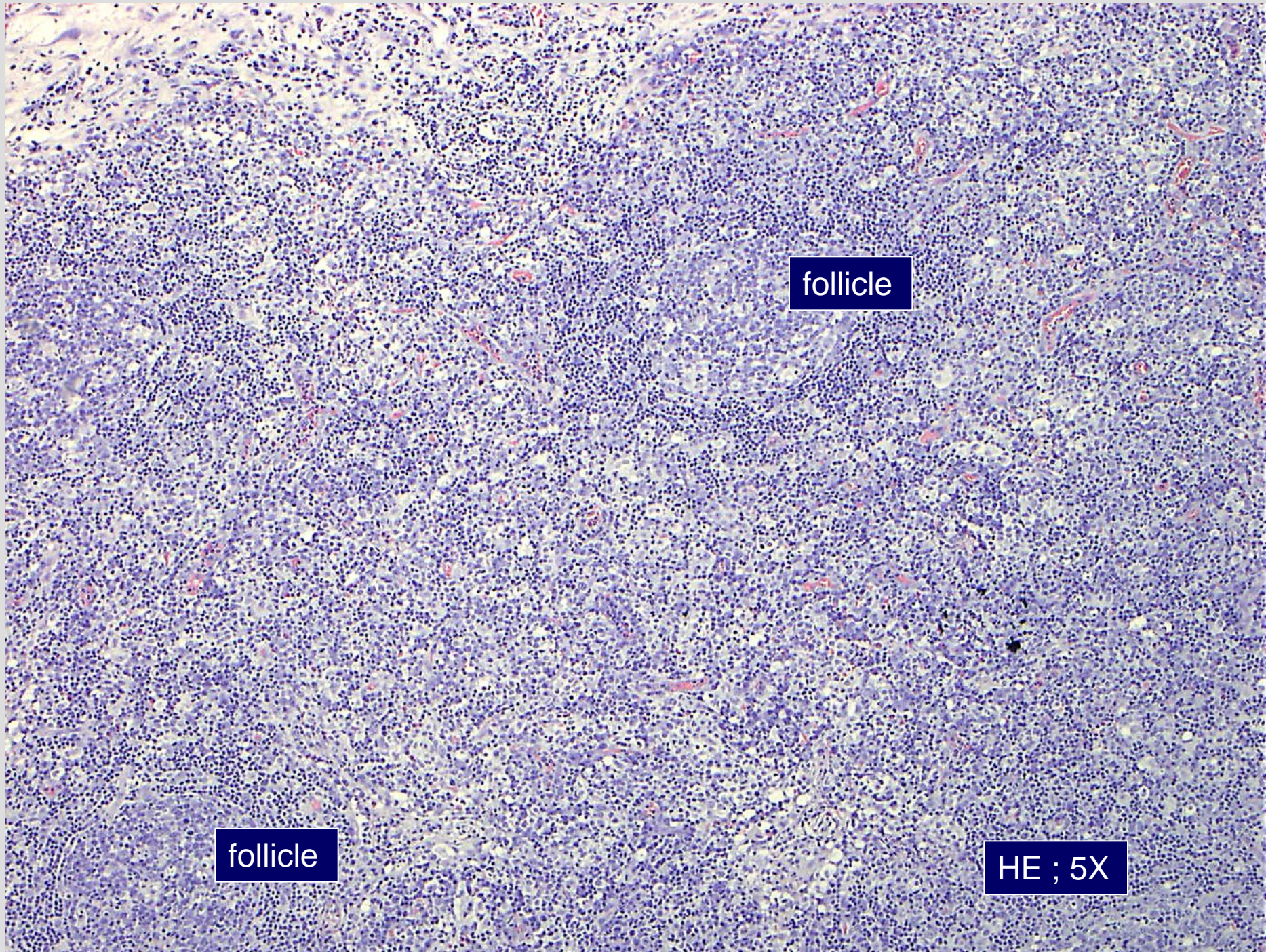


Workshop Case #2 (H 331/ 09)

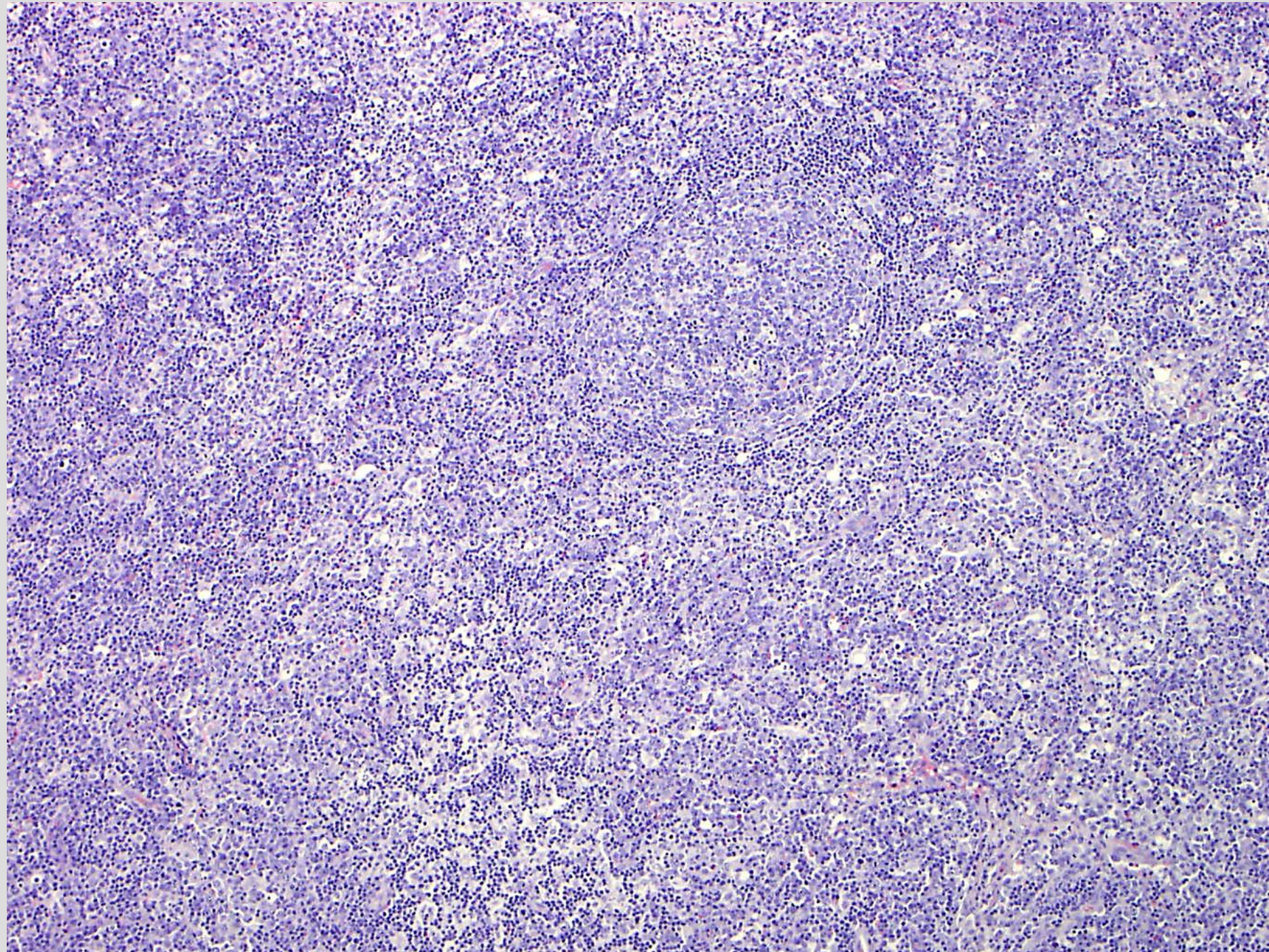
Age	24 years
Sex	male
Localization	lymph node dorsal musc. sternocleidomastoideus
Clinical data	NHL?

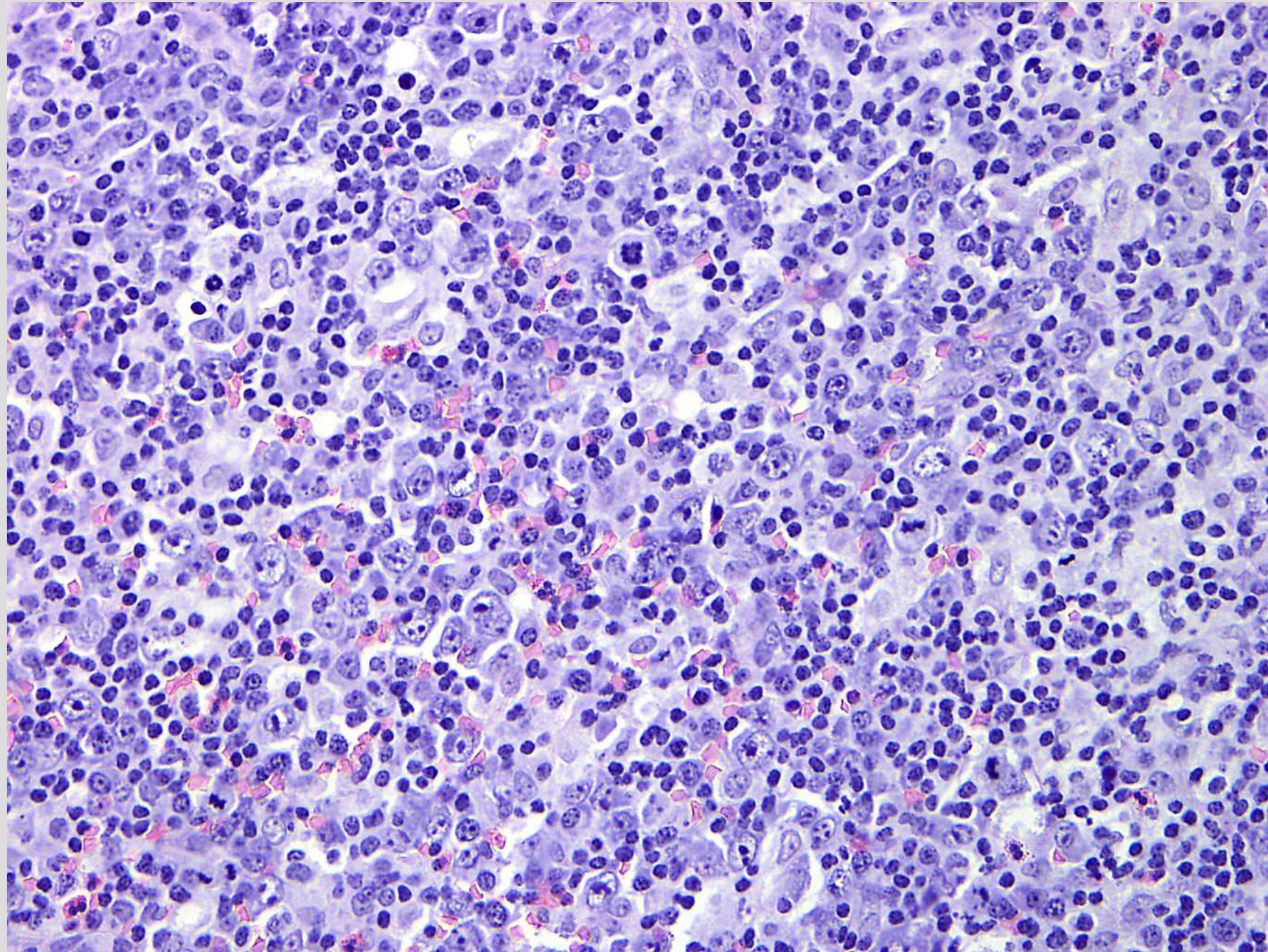


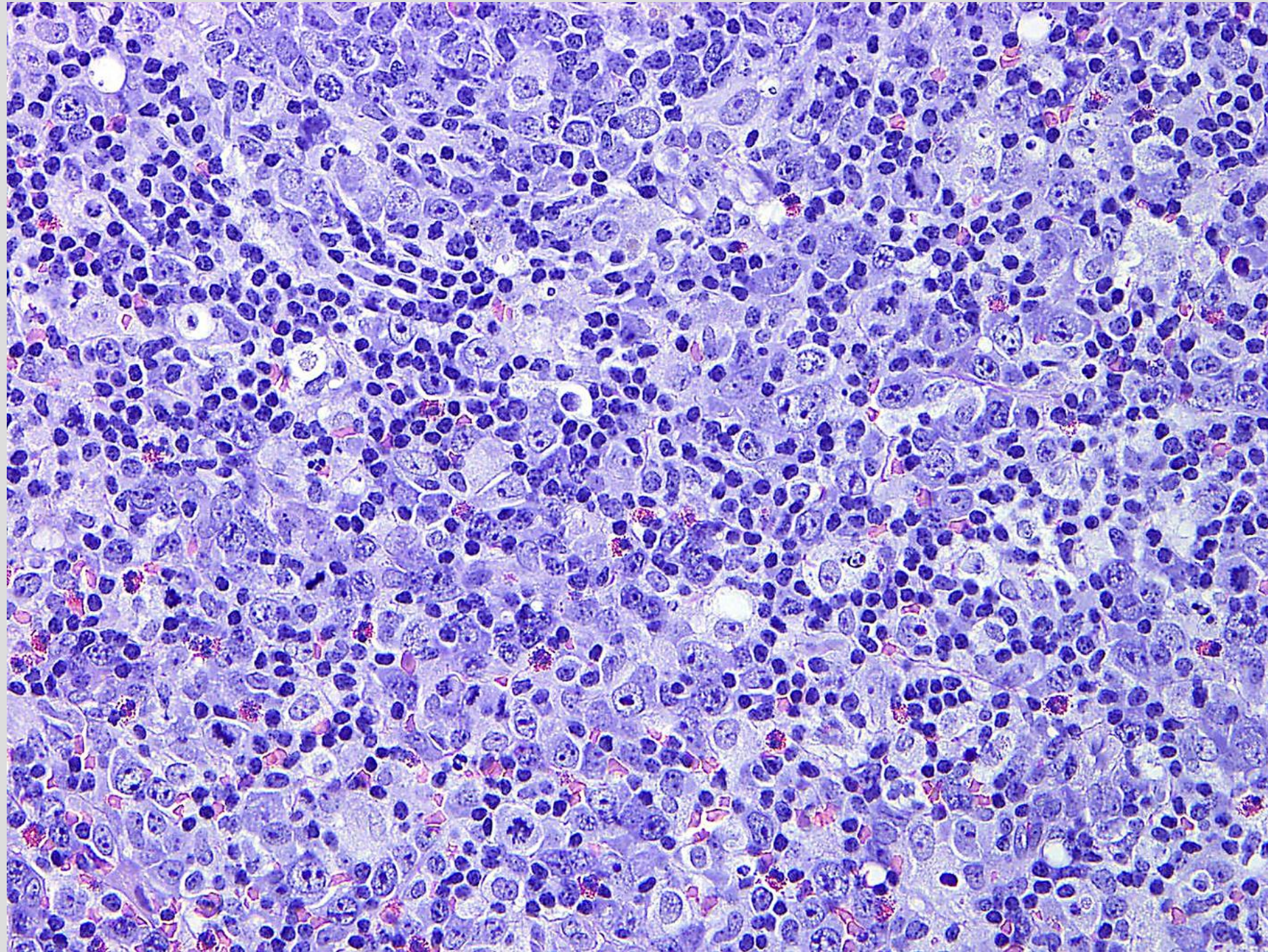
follicle

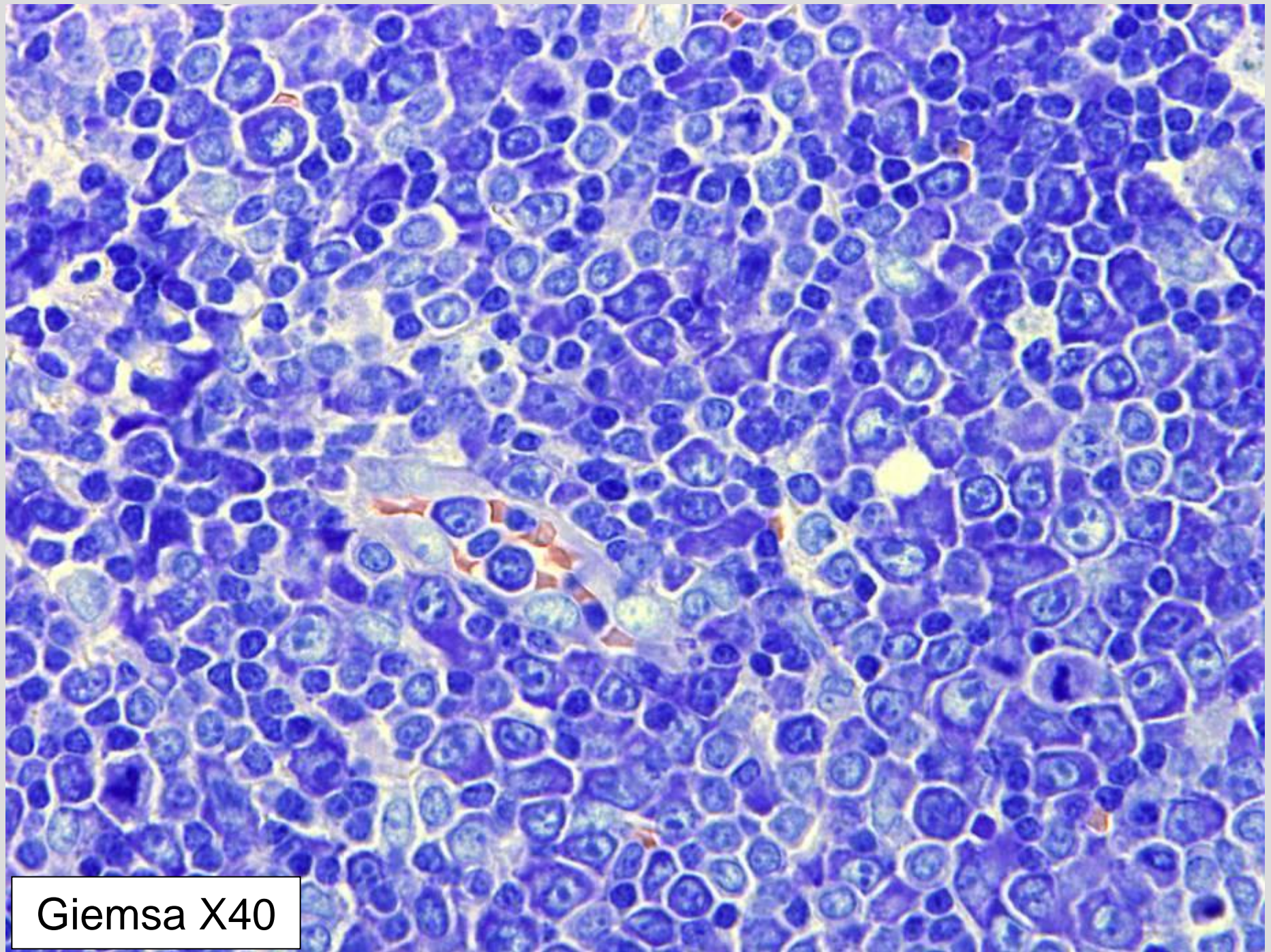
follicle

HE ; 5X

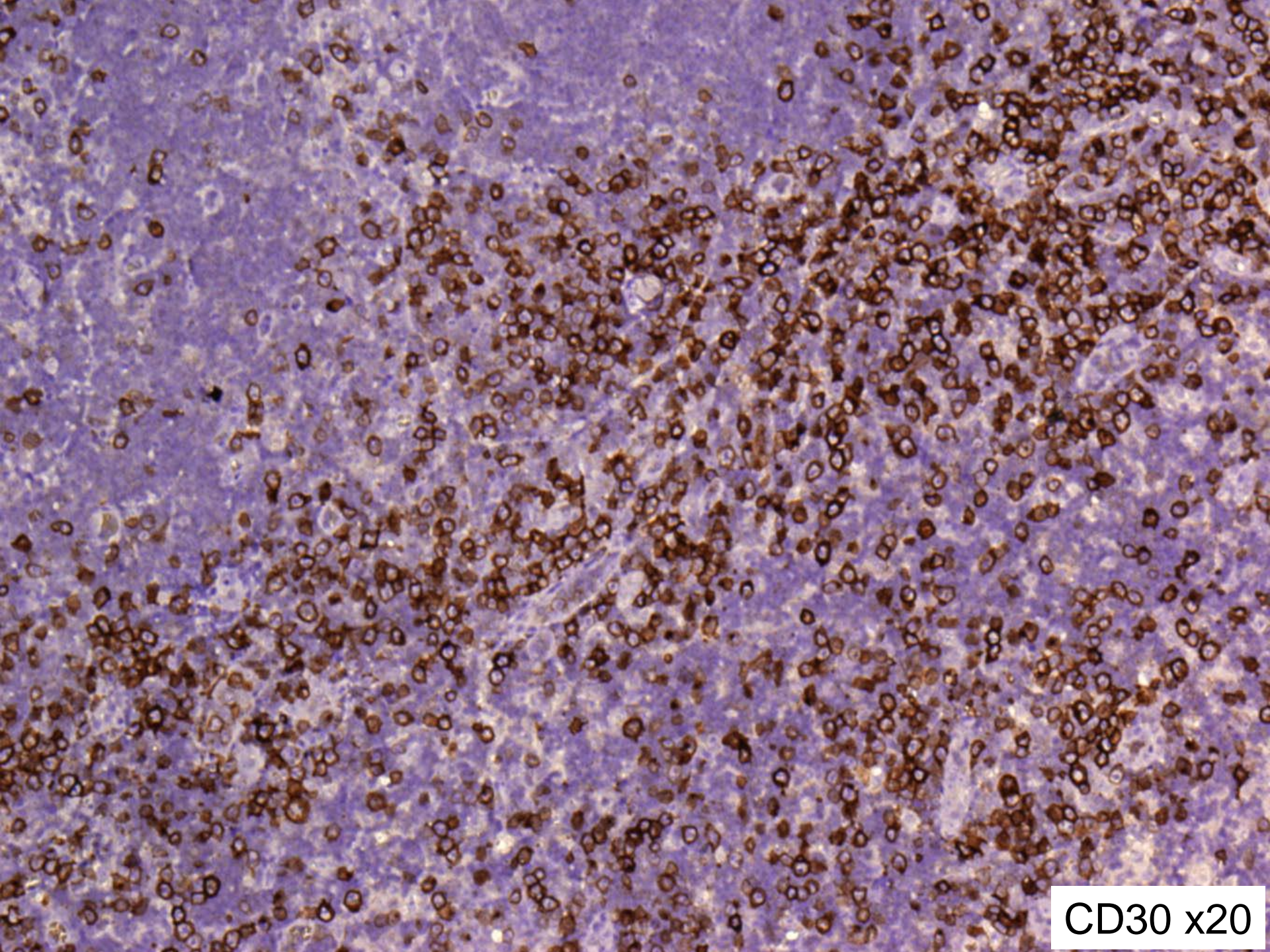




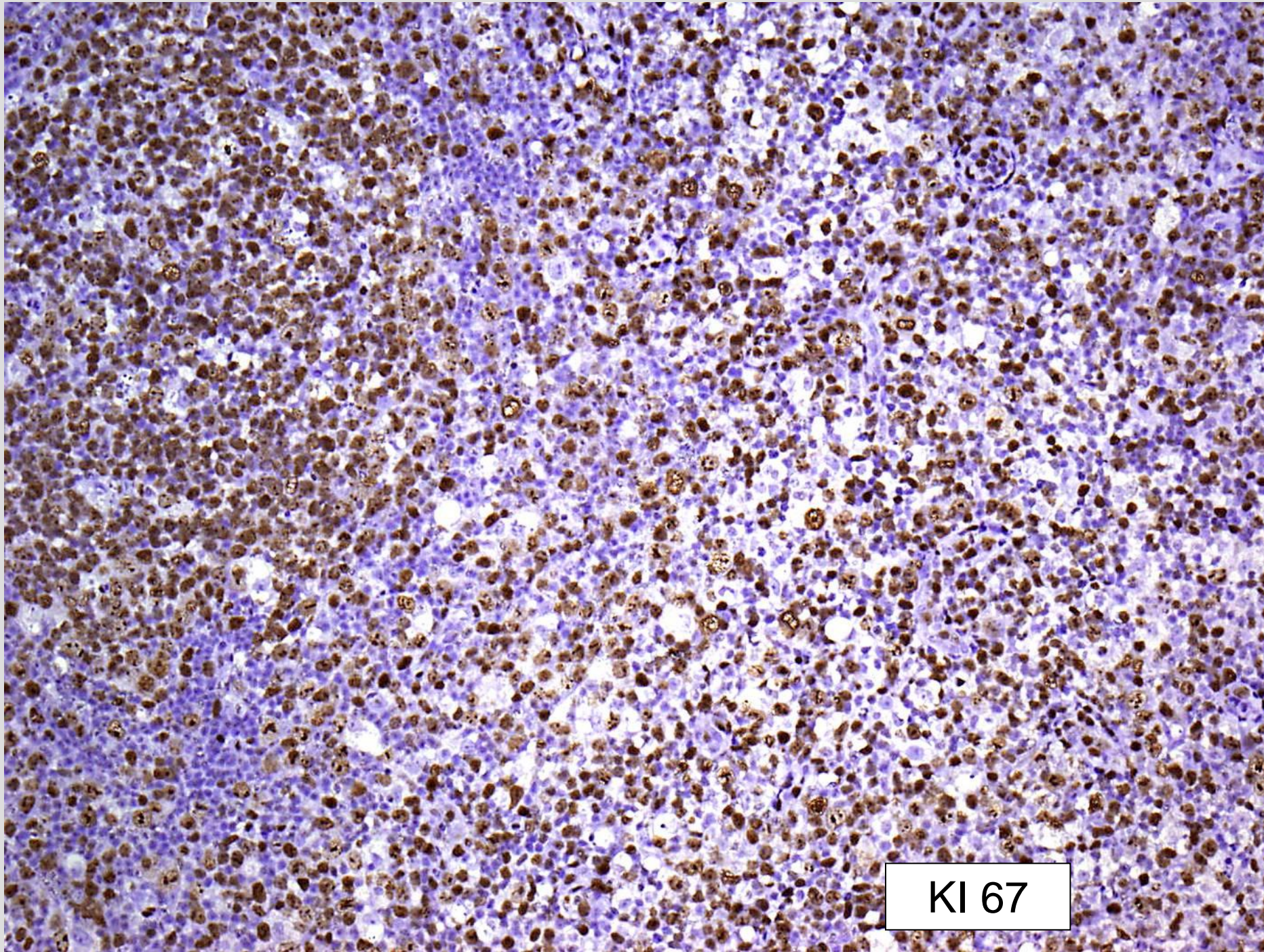




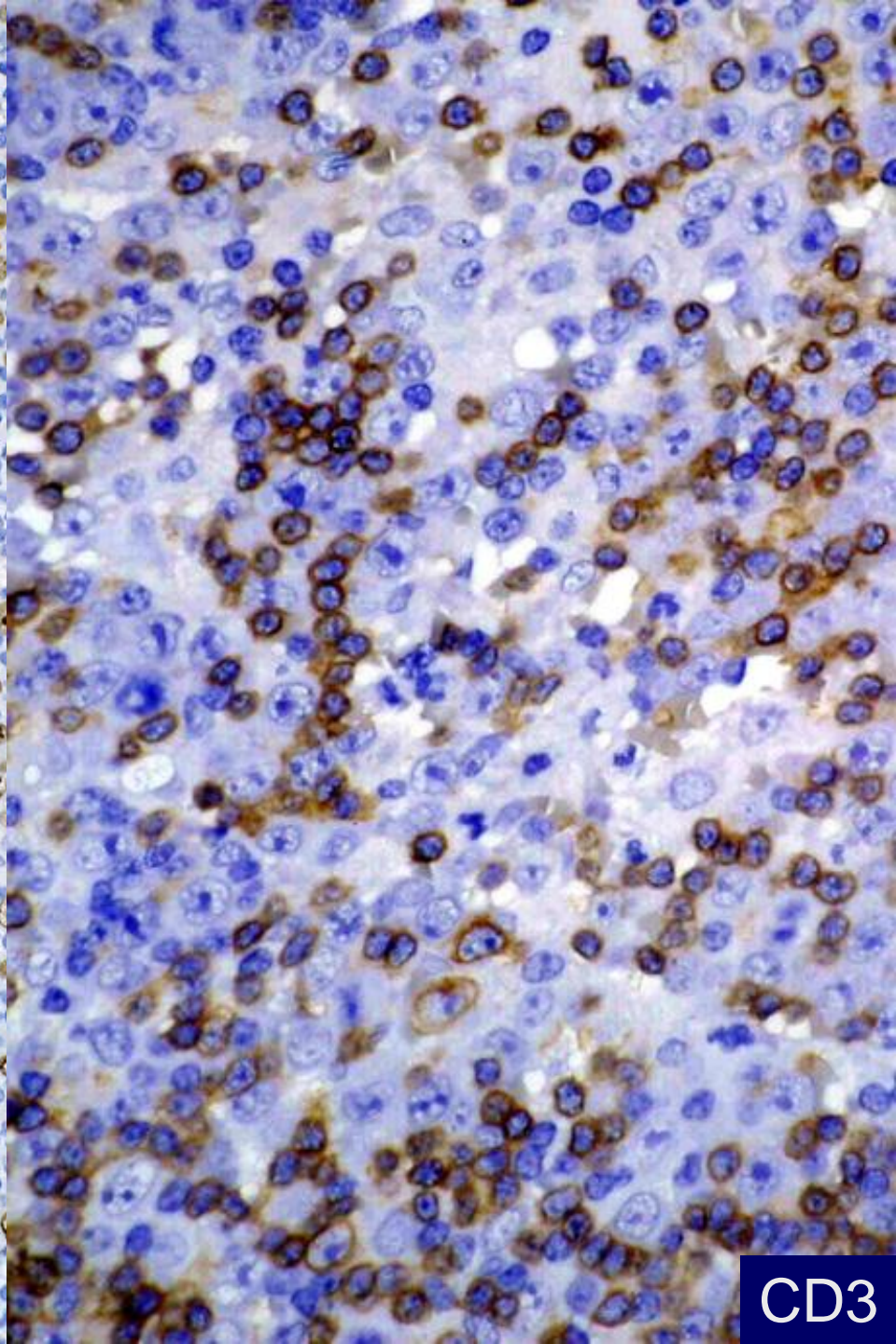
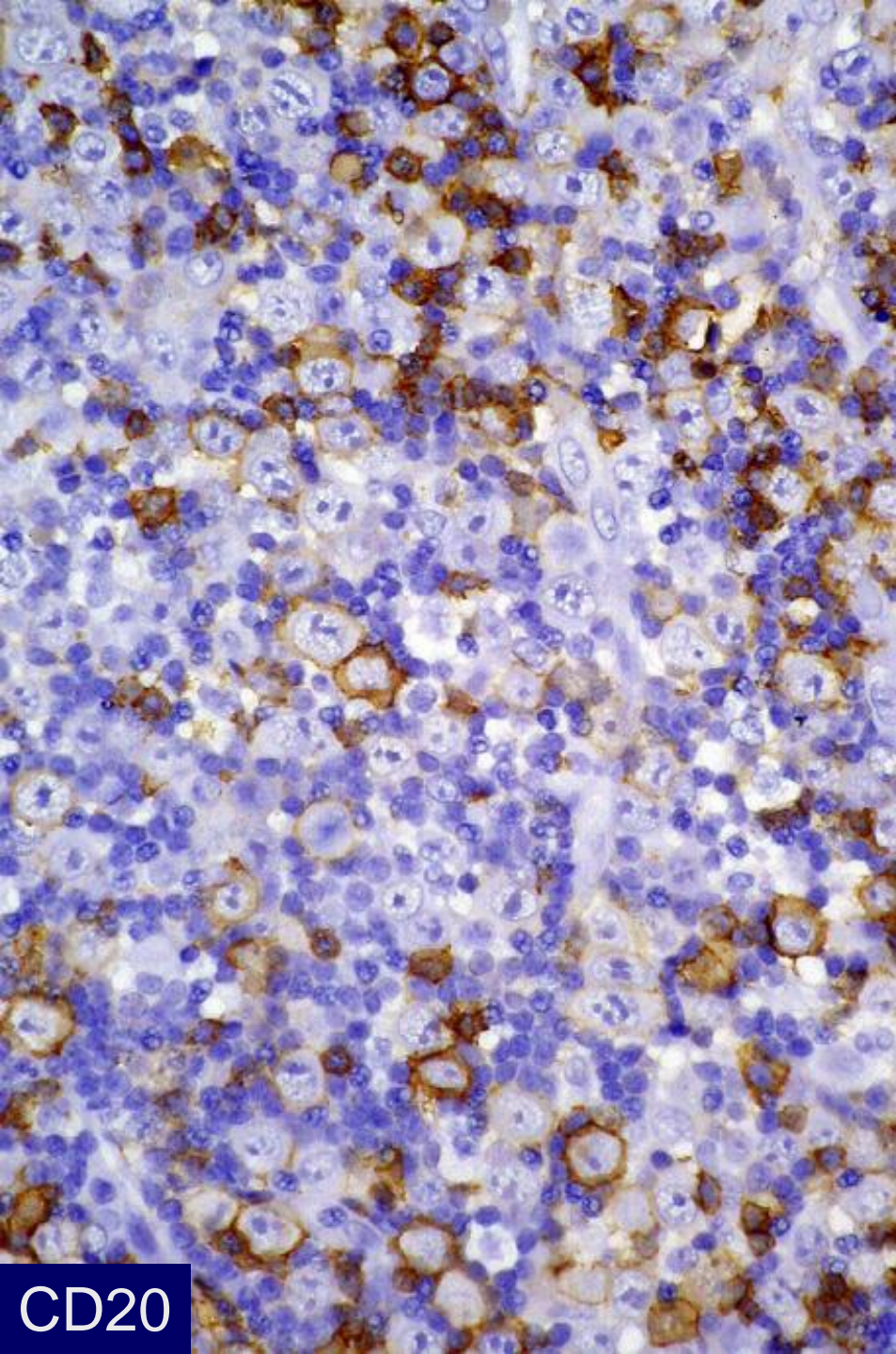
Giemsa X40

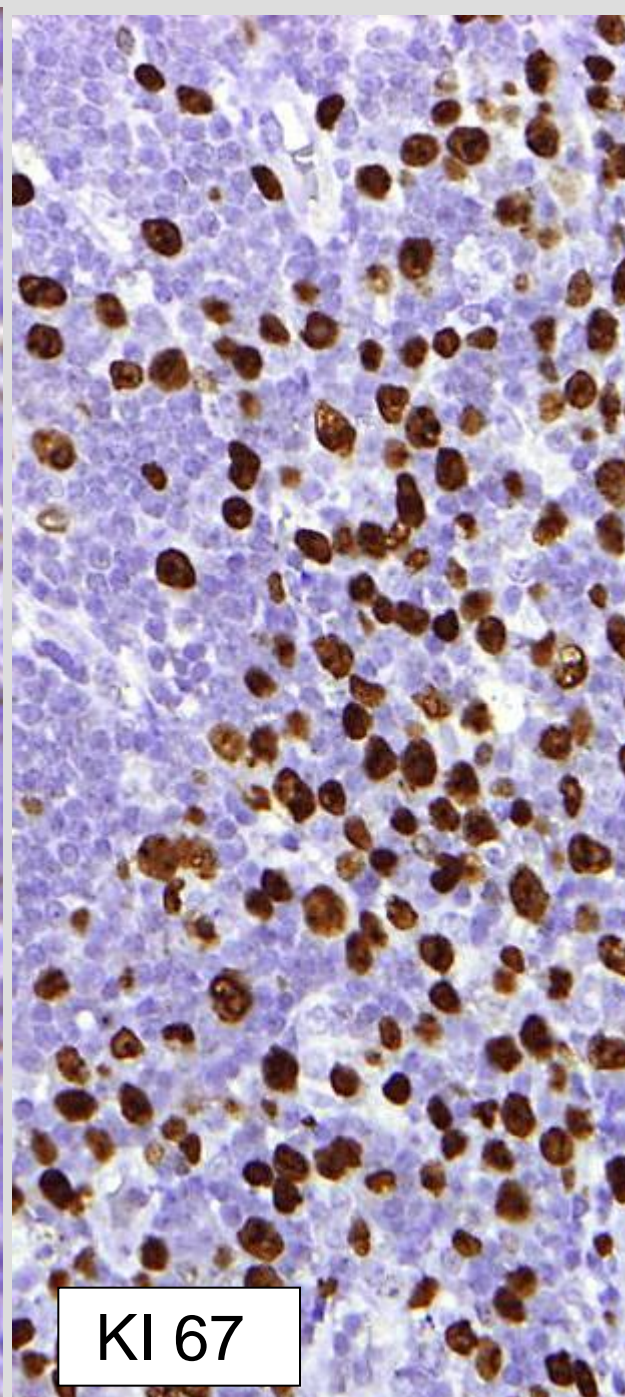
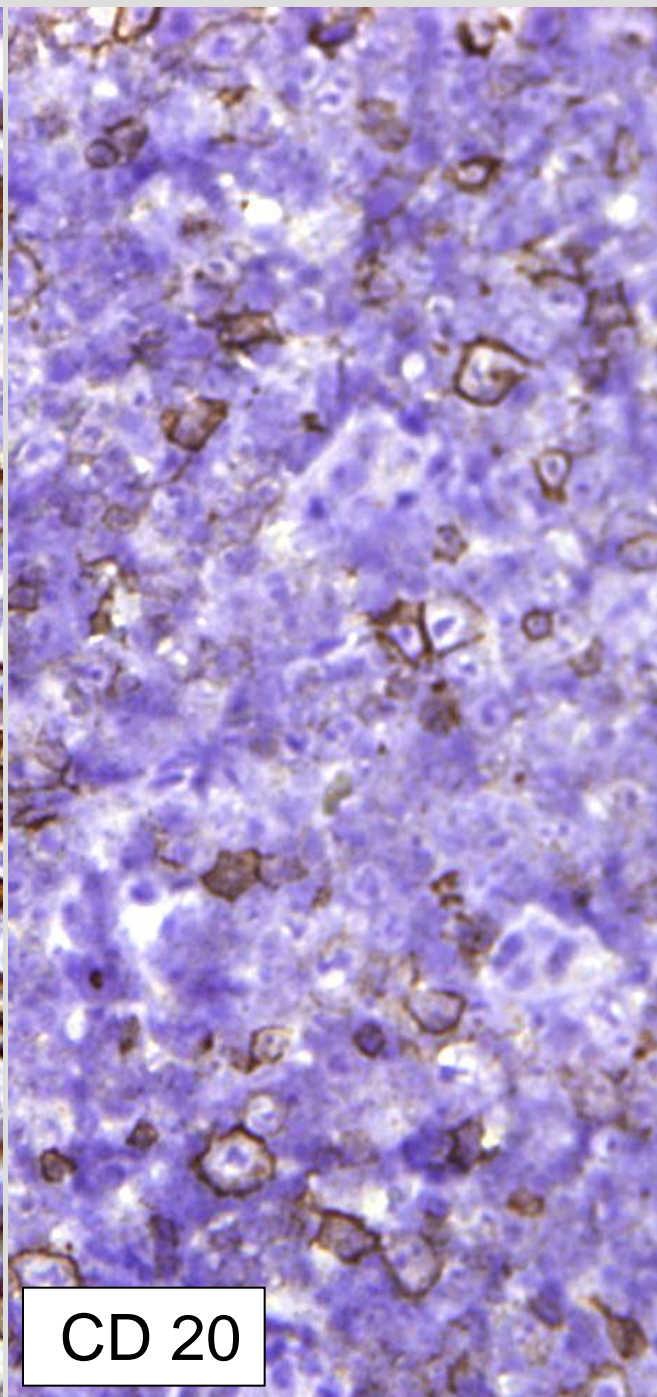
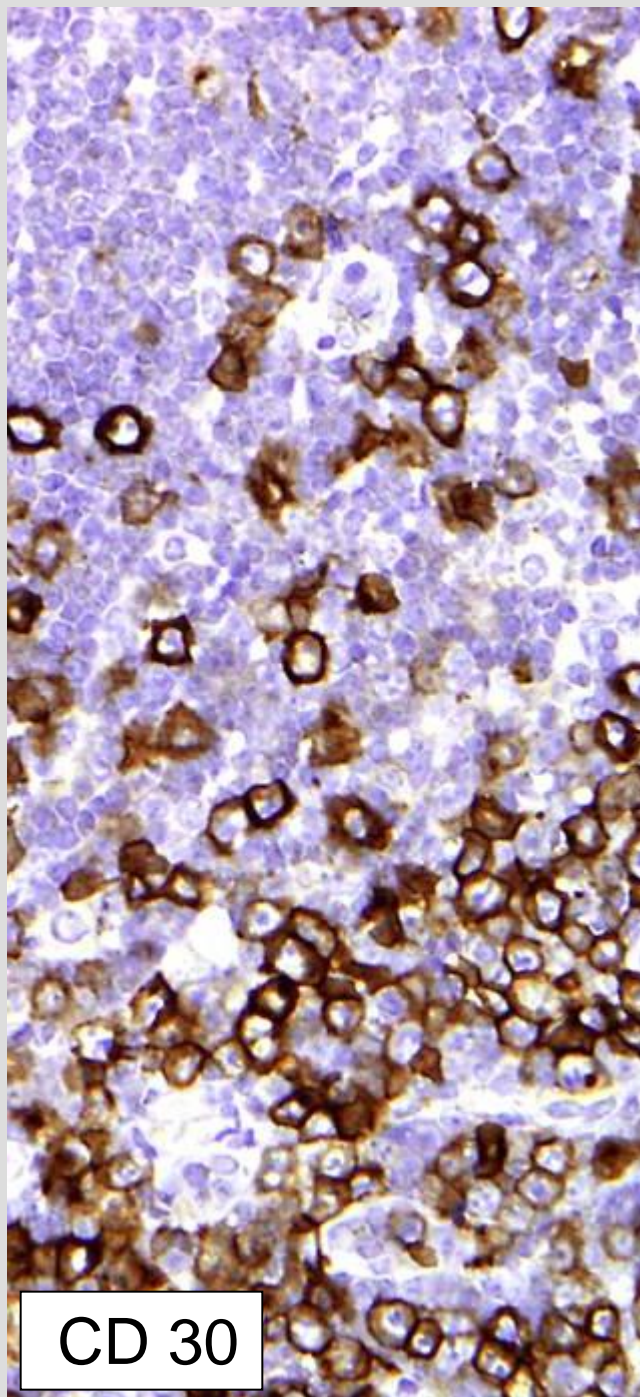


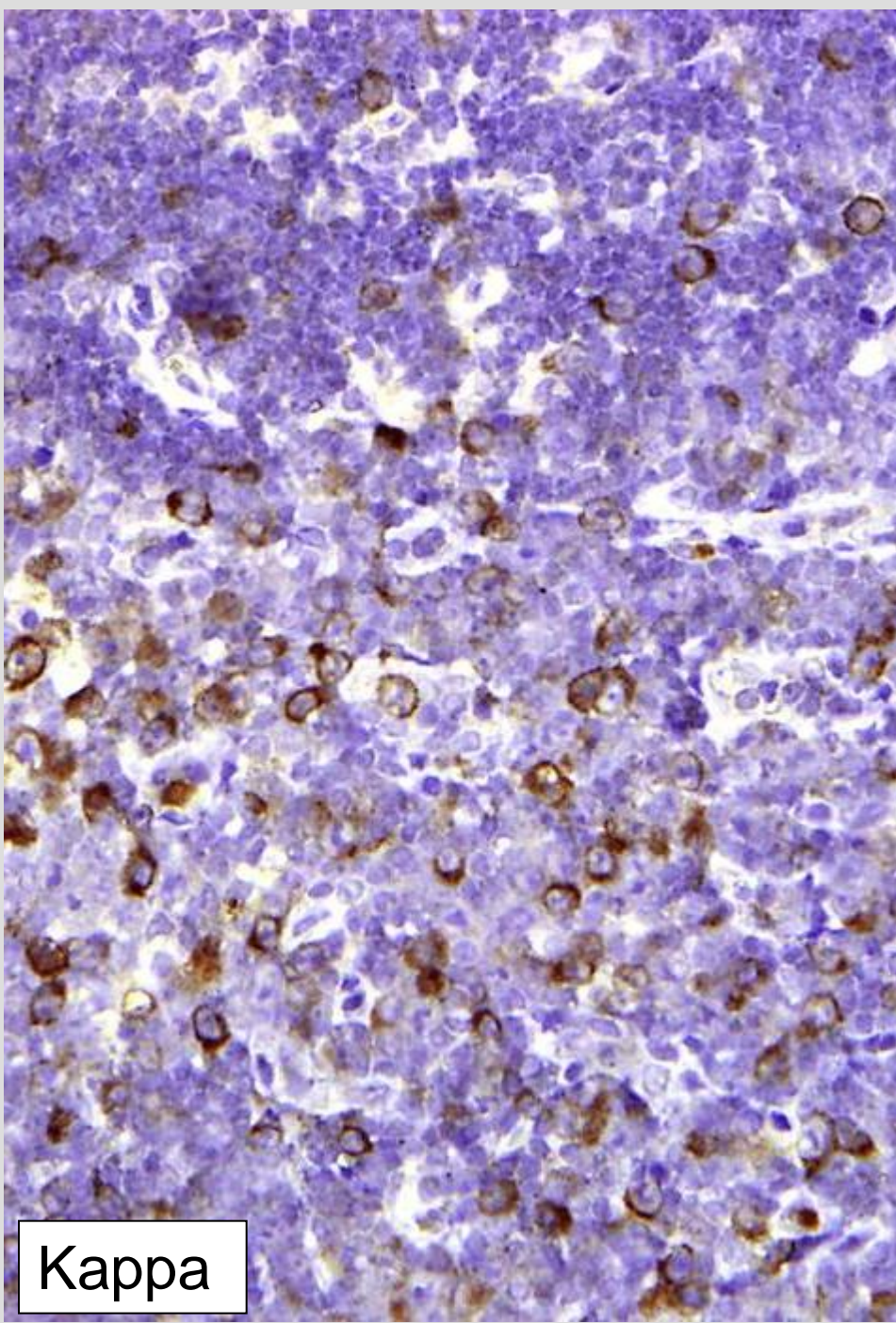
CD30 x20



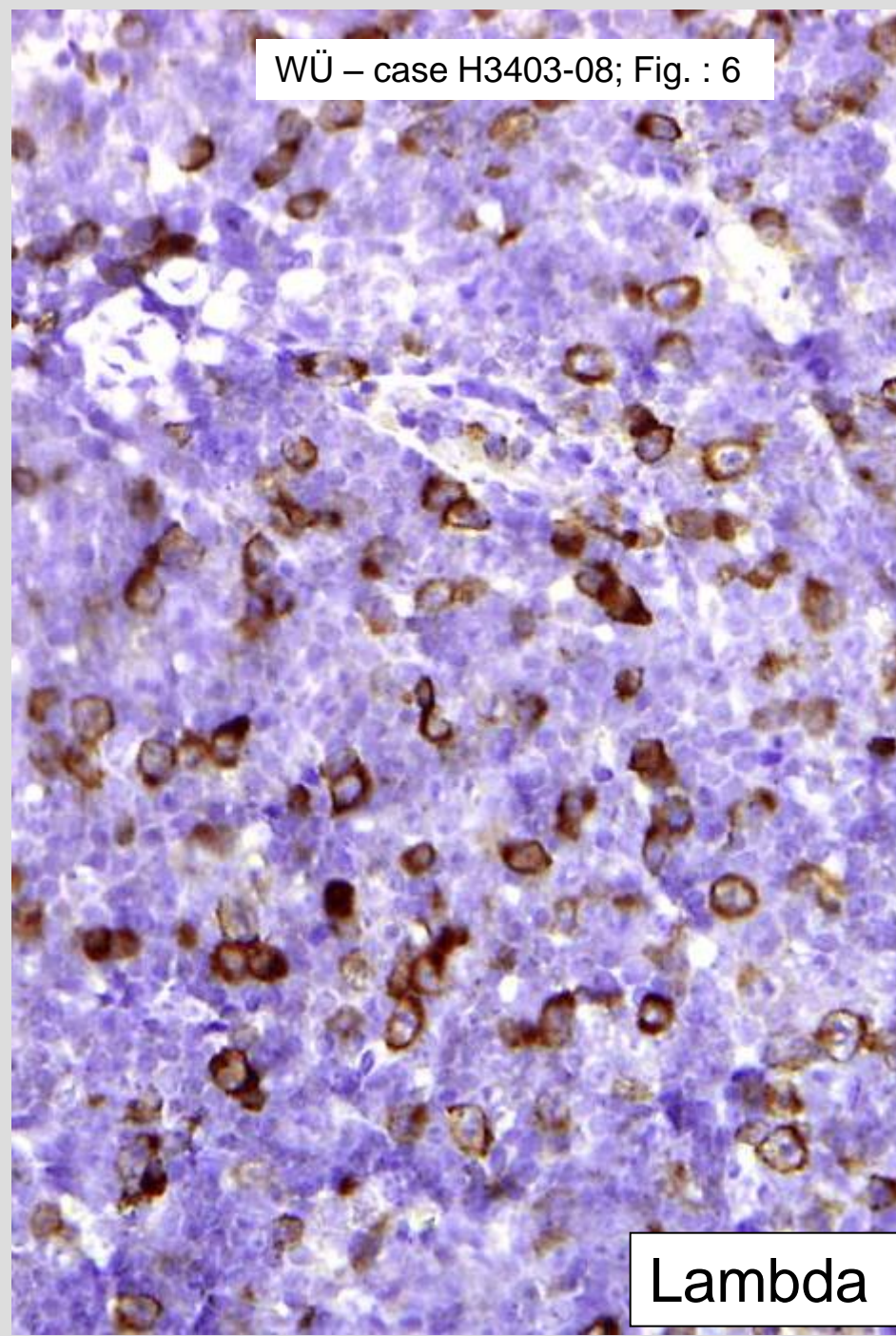
KI 67







Kappa



Lambda

Microscopic findings

Preserved lymph node structure. Inconspicuous primary and some secondary follicles with germinal centers. Diffuse hyperplasia of paracortical pulp area with massive increase of blast cells.

Blast cells are CD30 + , CD 20 and CD79a negative. Areas infiltrated by these blasts are illdefined mostly around small vessels and sinus. Very high proliferative activity .Immunoglobulin light chains are polytypic.

Molecular data

IgH FR3a and –FR2a PCR : polyclonal

TCR-gamma PCR : polyclonal

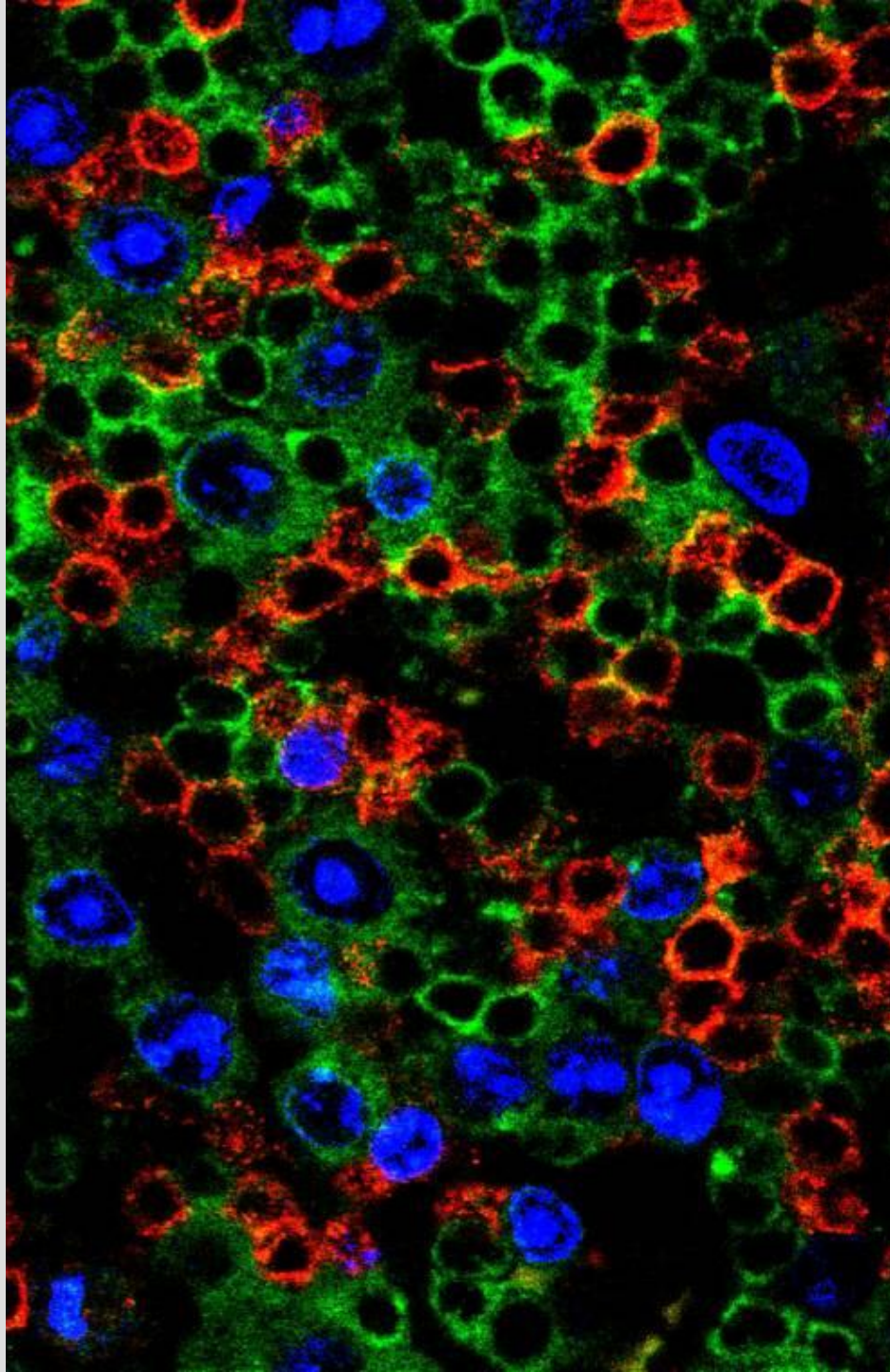
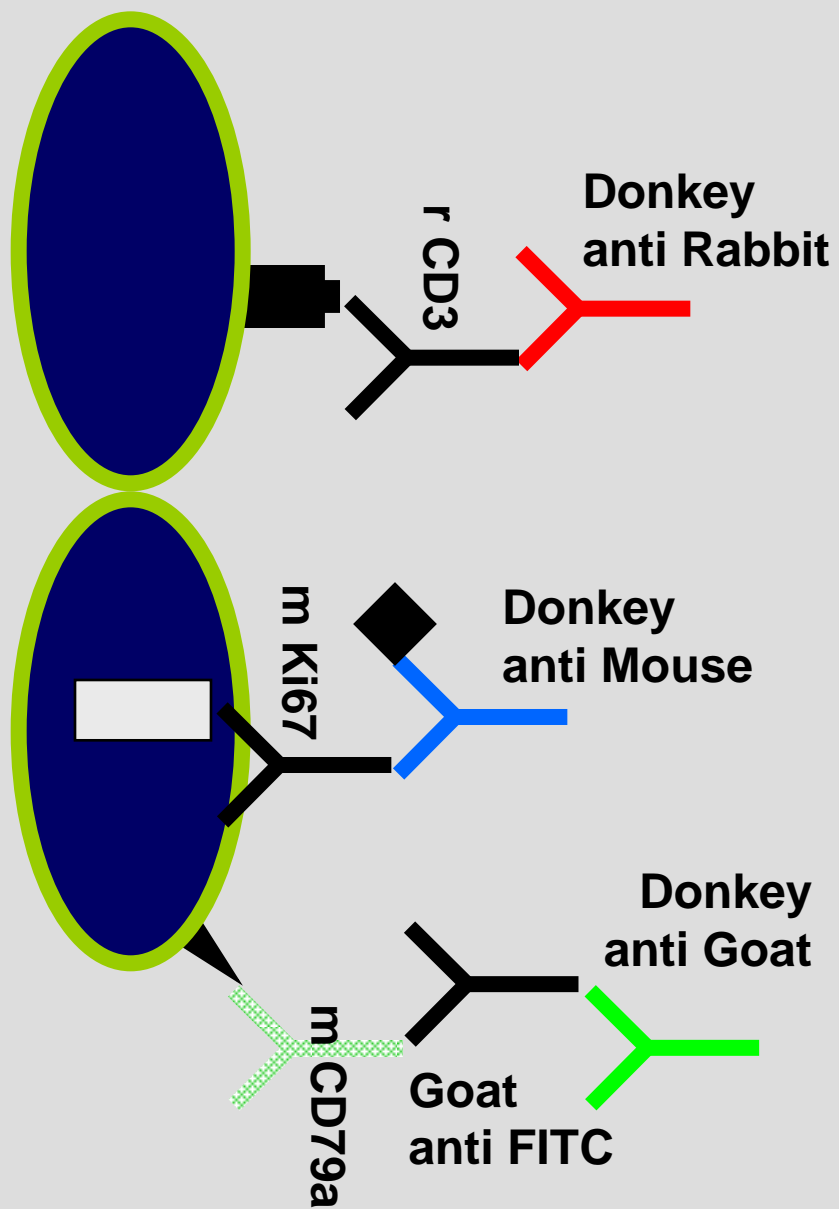
Differential diagnosis

Partial infiltration of l.n. by NHL (e.g. ALCL)?

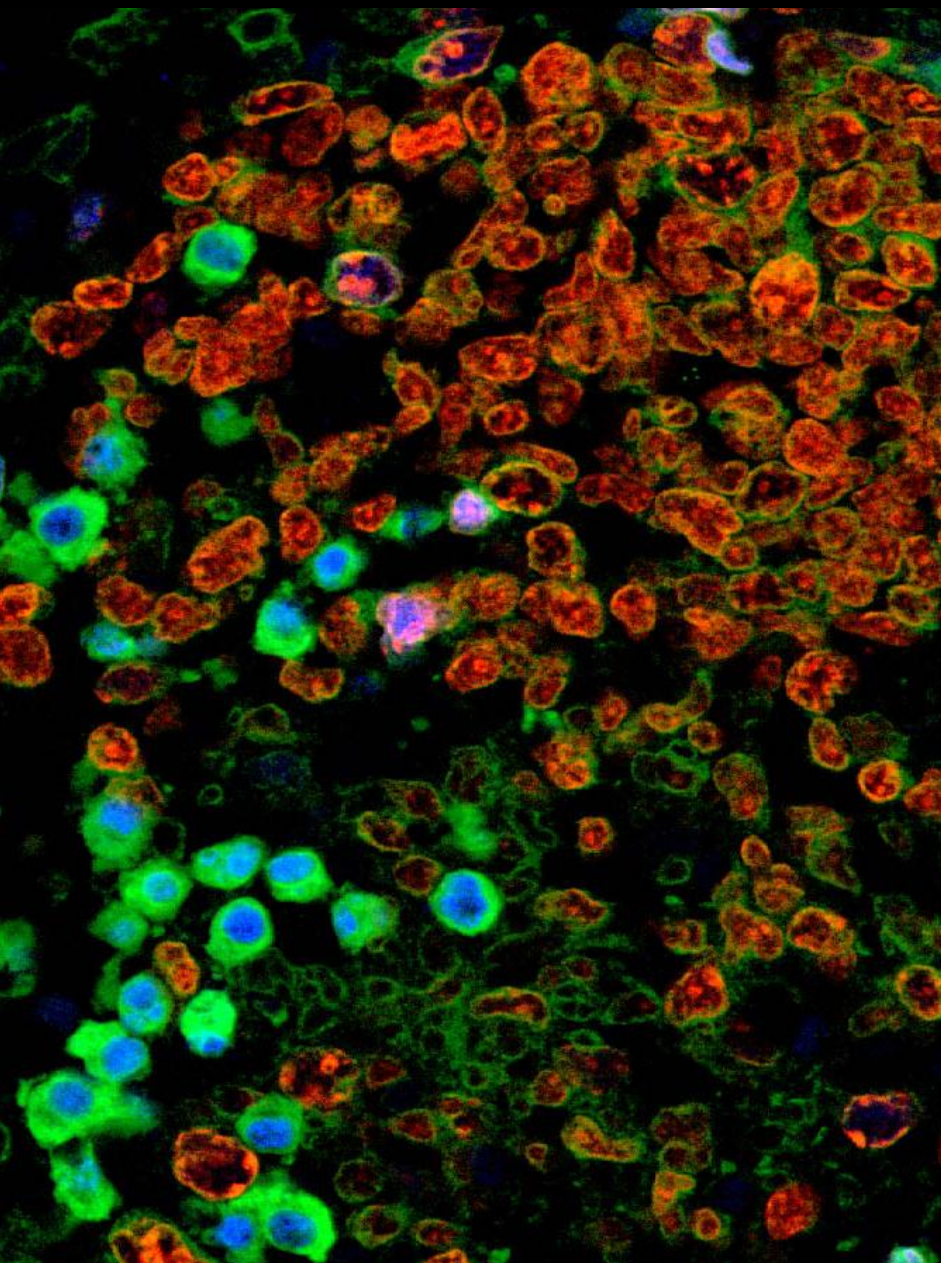
If reactive:

Functional interpretation of findings?

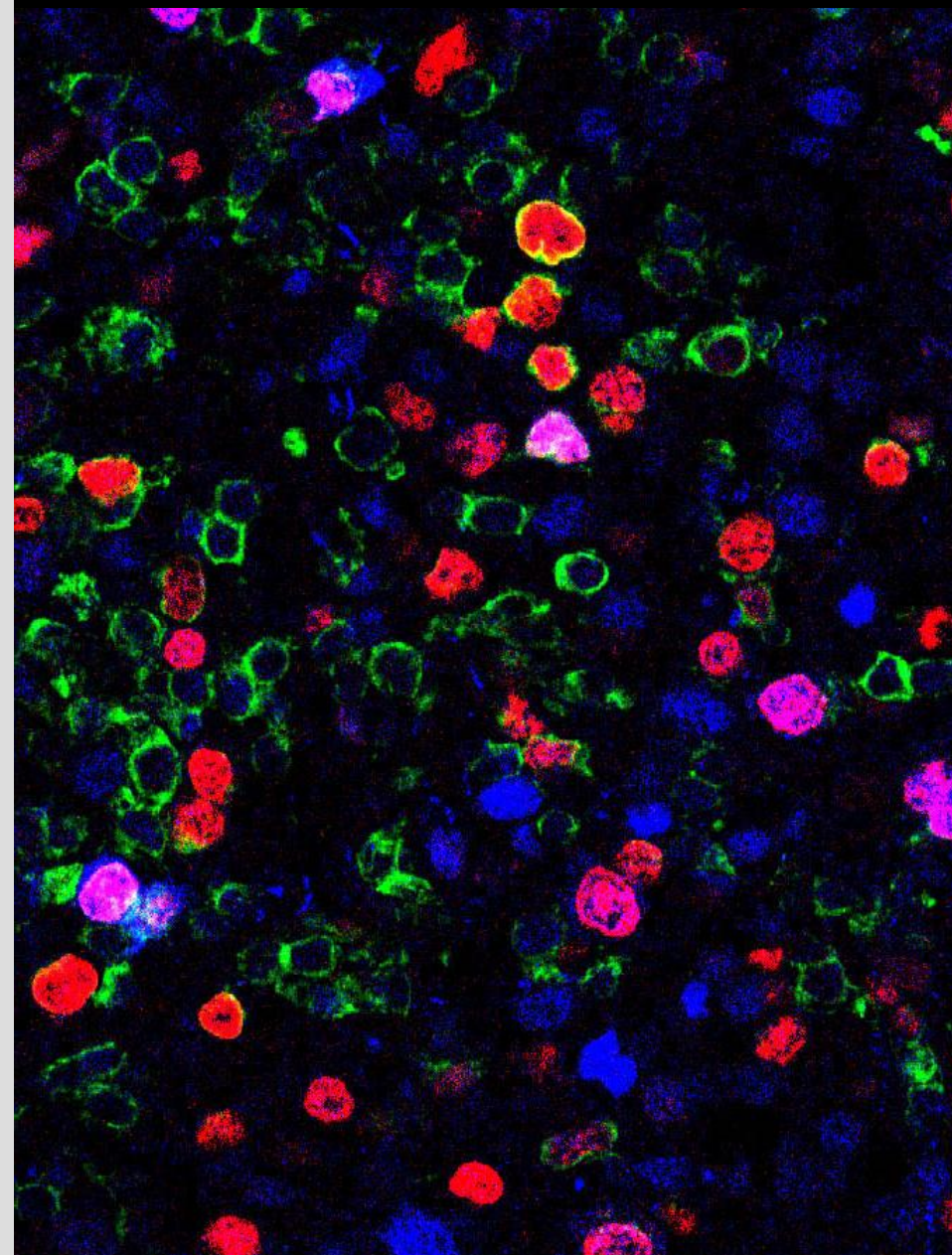
Etiopathogenesis?



Germinal center reaction

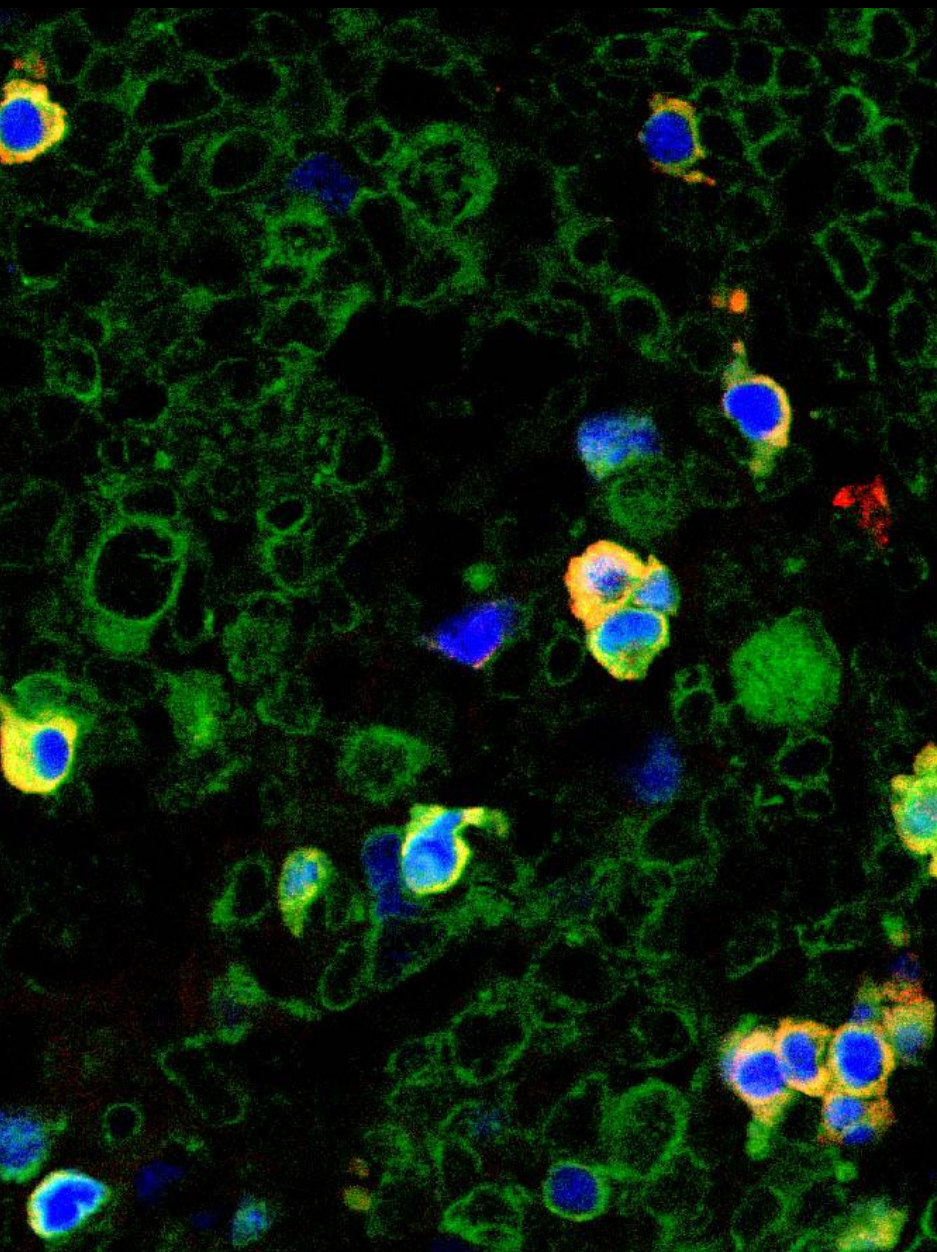


Extrafollicular reaction

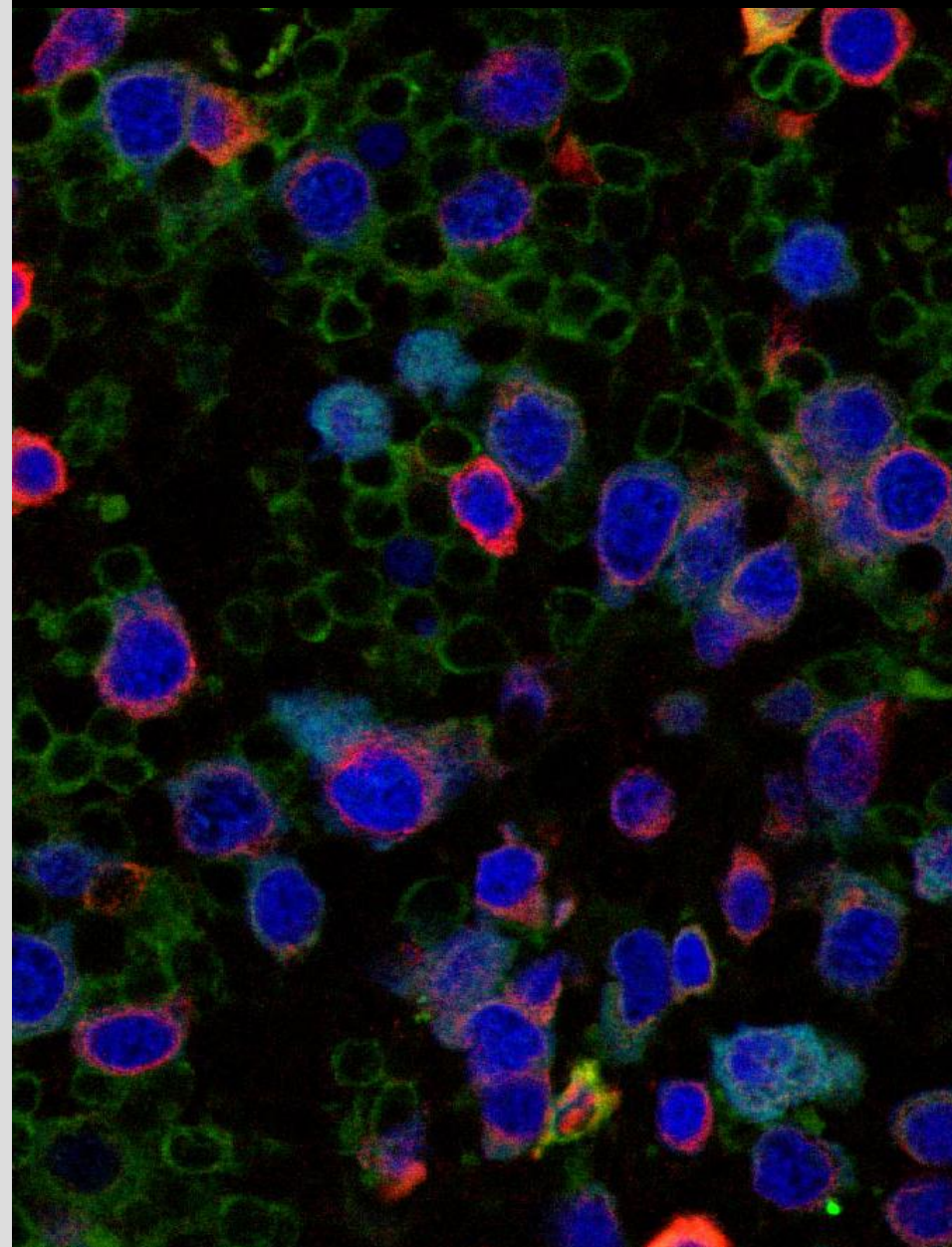


Ki67 CD79a IRF-4

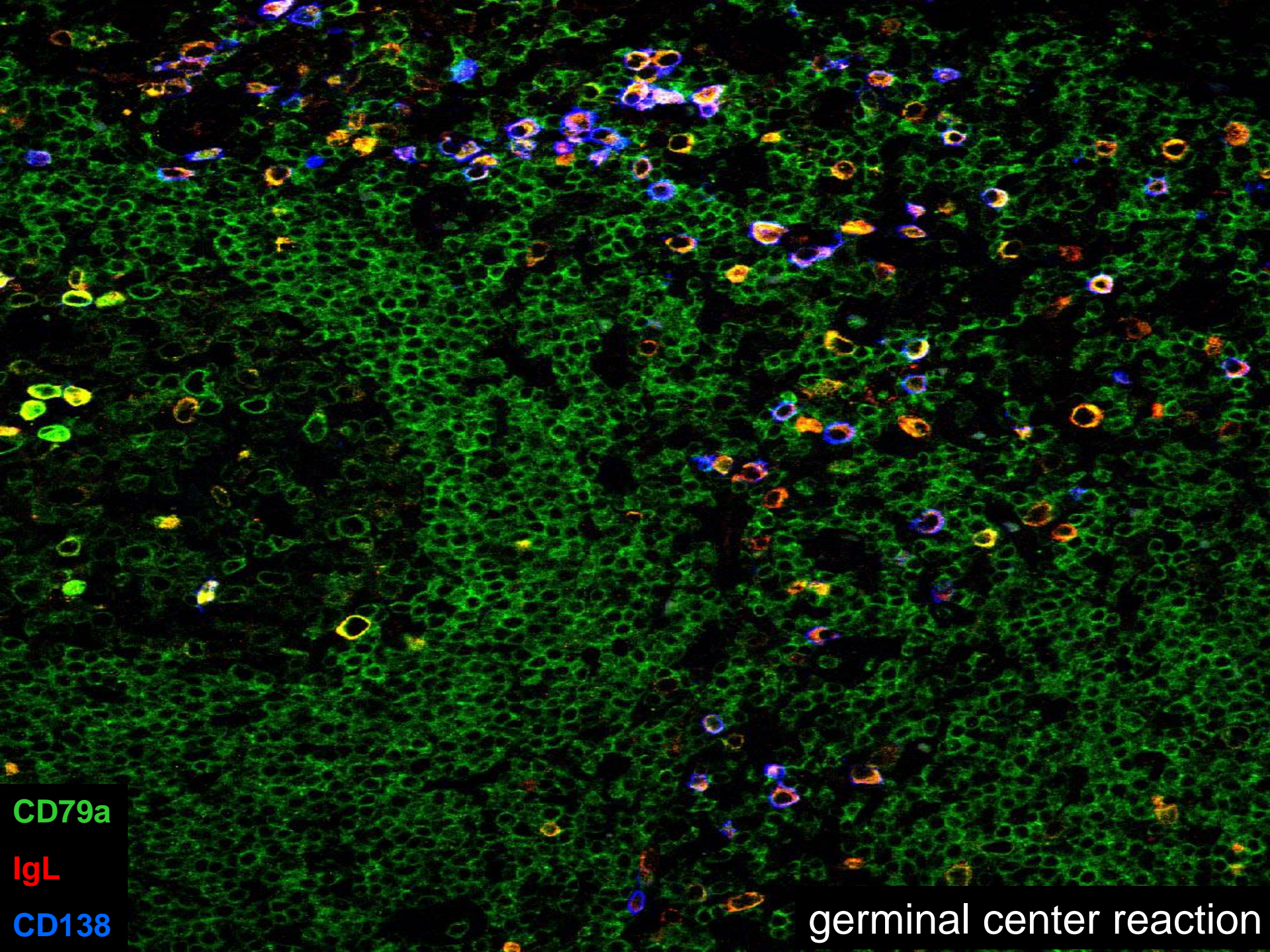
Germinal center reaction



Extrafollicular reaction



CD79a IgL IRF-4



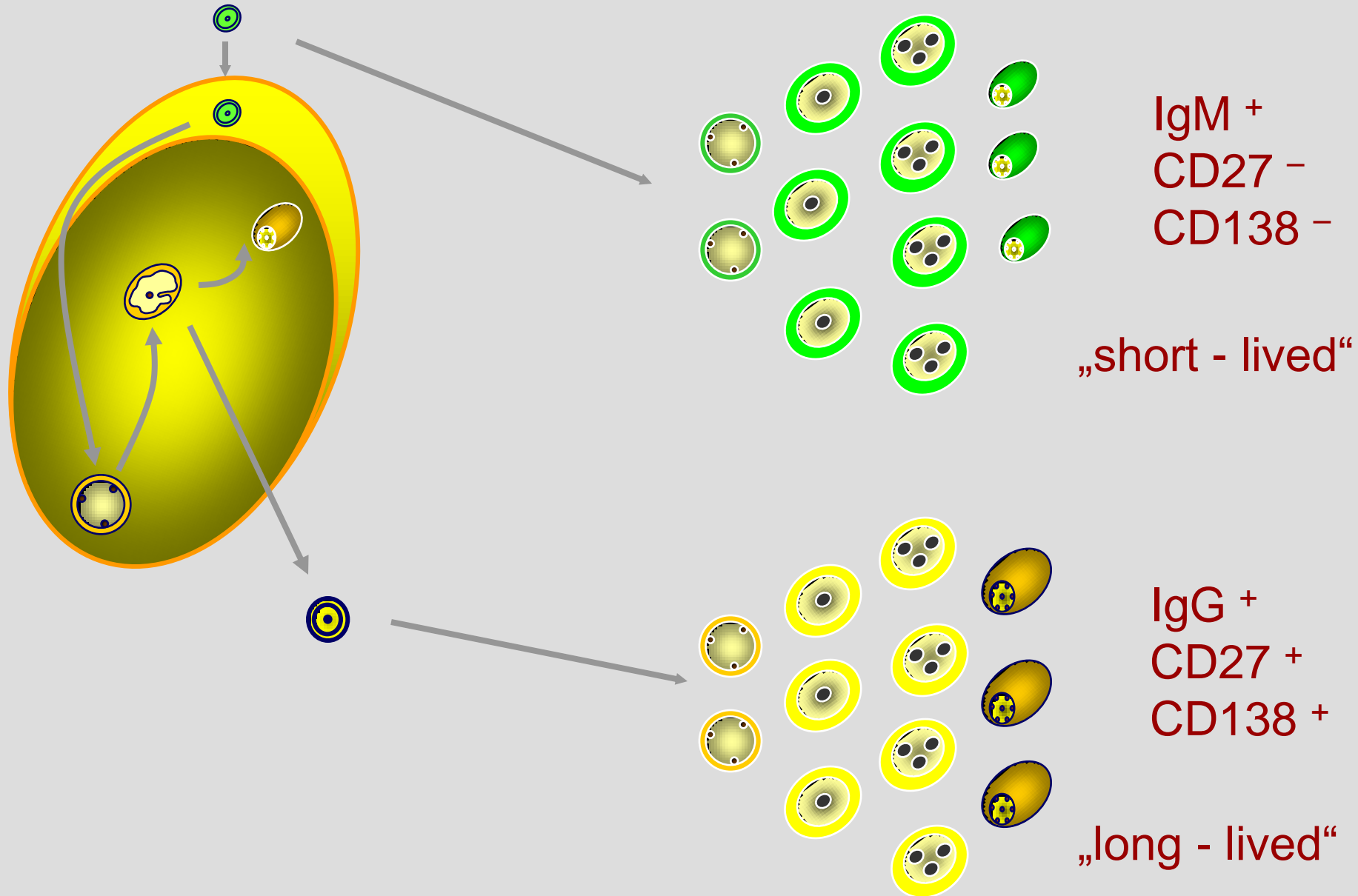
CD79a

IgL

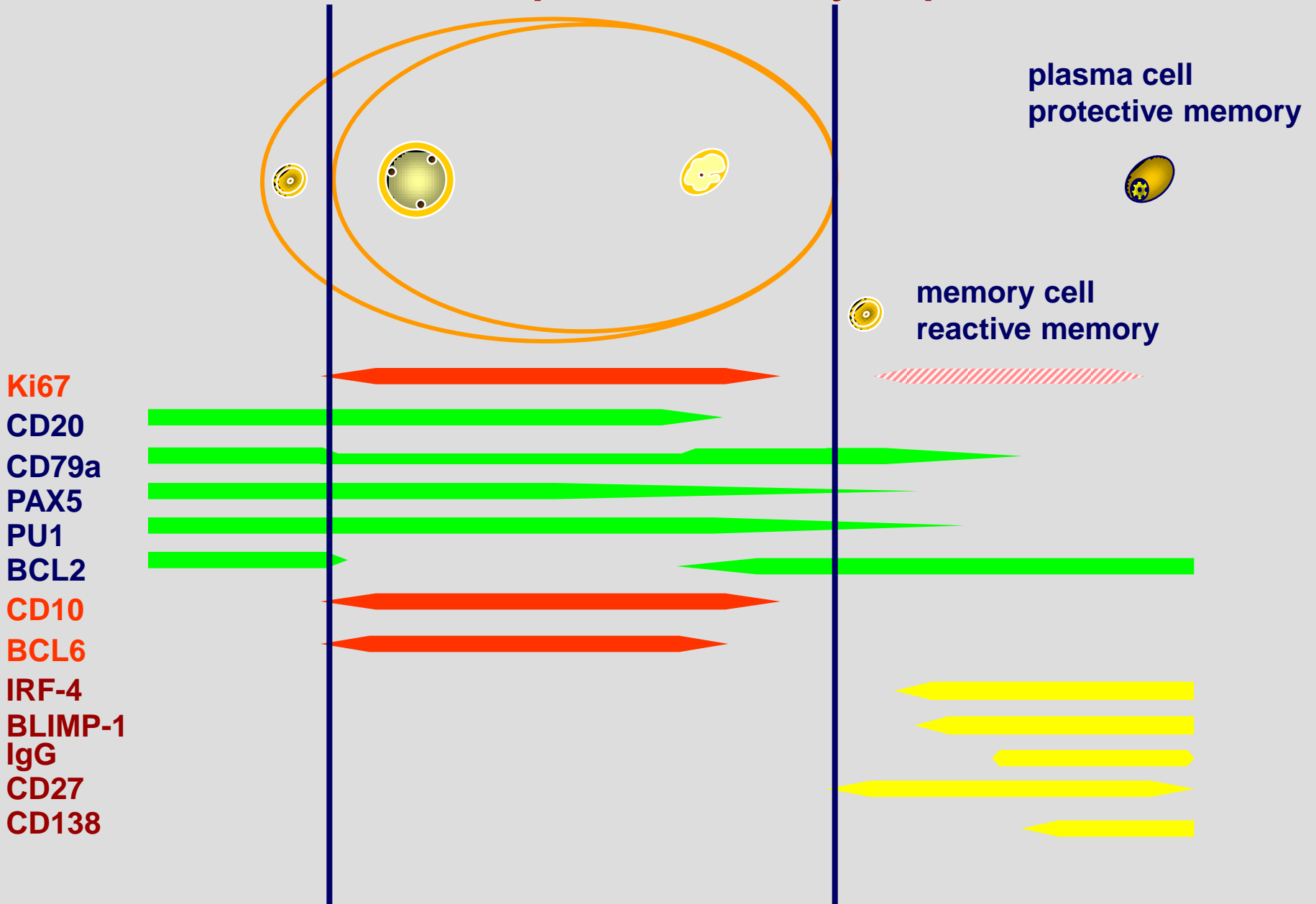
CD138

germinal center reaction

Extrafollicular pathways of the B-cell activation



B-cell development in lymph nodes



Etiopathogenesis

Polyclonal activation of prefollicular (naive) B cells due to T cell independant antigens or superantigen (Bacterial polysaccharides or capsule components).

Polyclonal activation of memory B cells (anamnestic response, Virus, immune deficiency,BMTx ?)

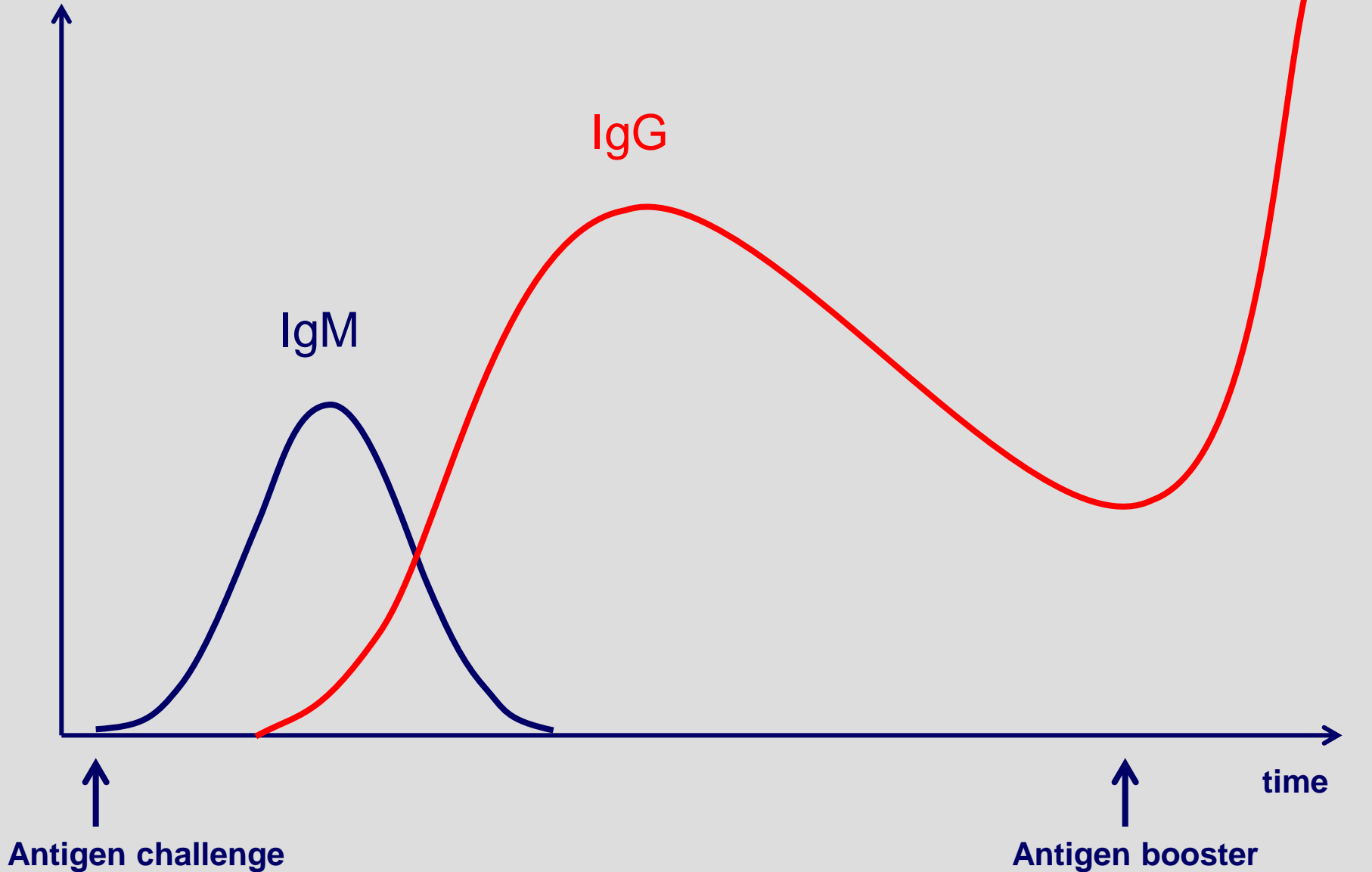
Diagnosis Case #3

Hyperimmune reaction:

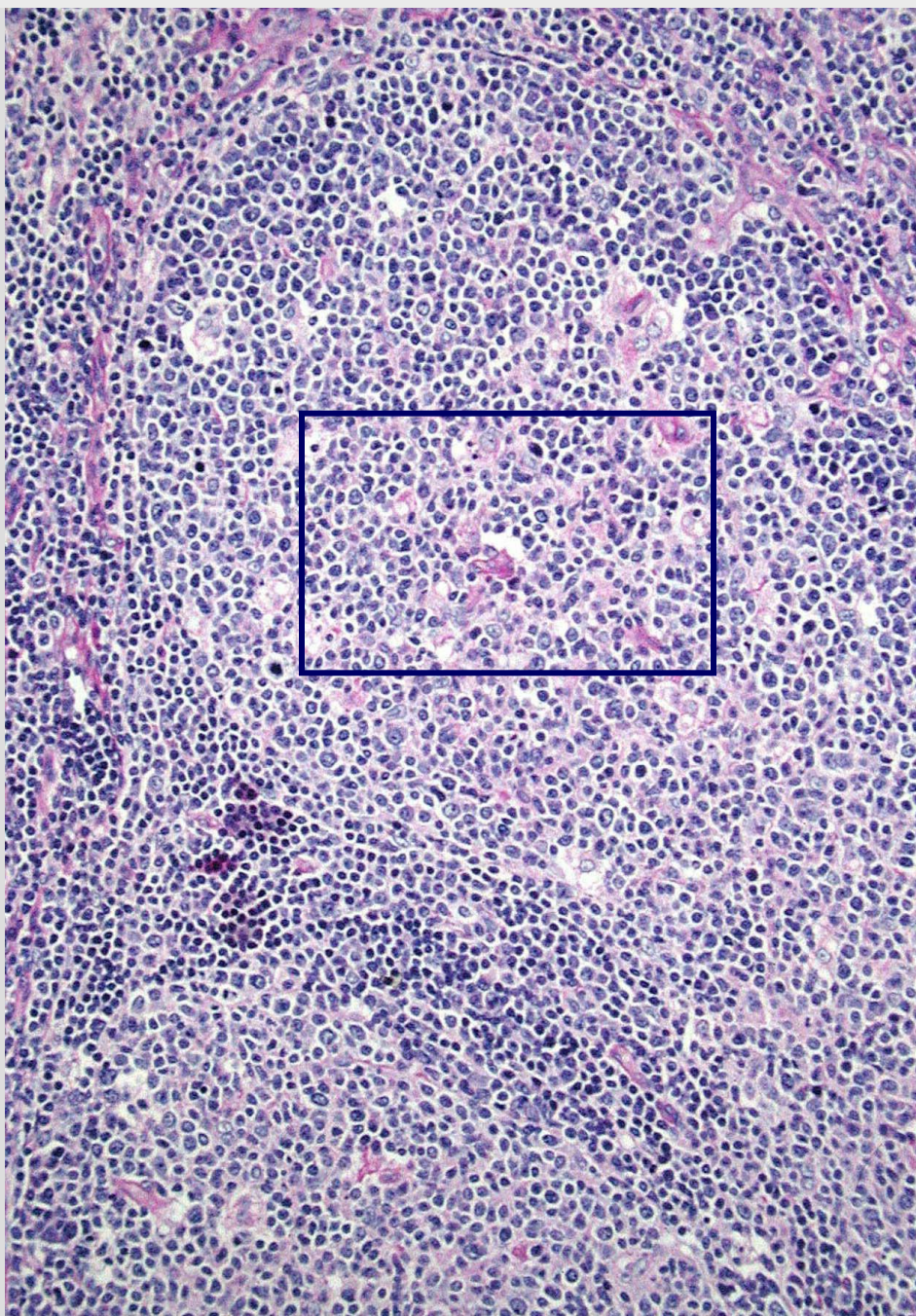
Marked extrafollicular activation of lymph
node

Serology of Antibody Response

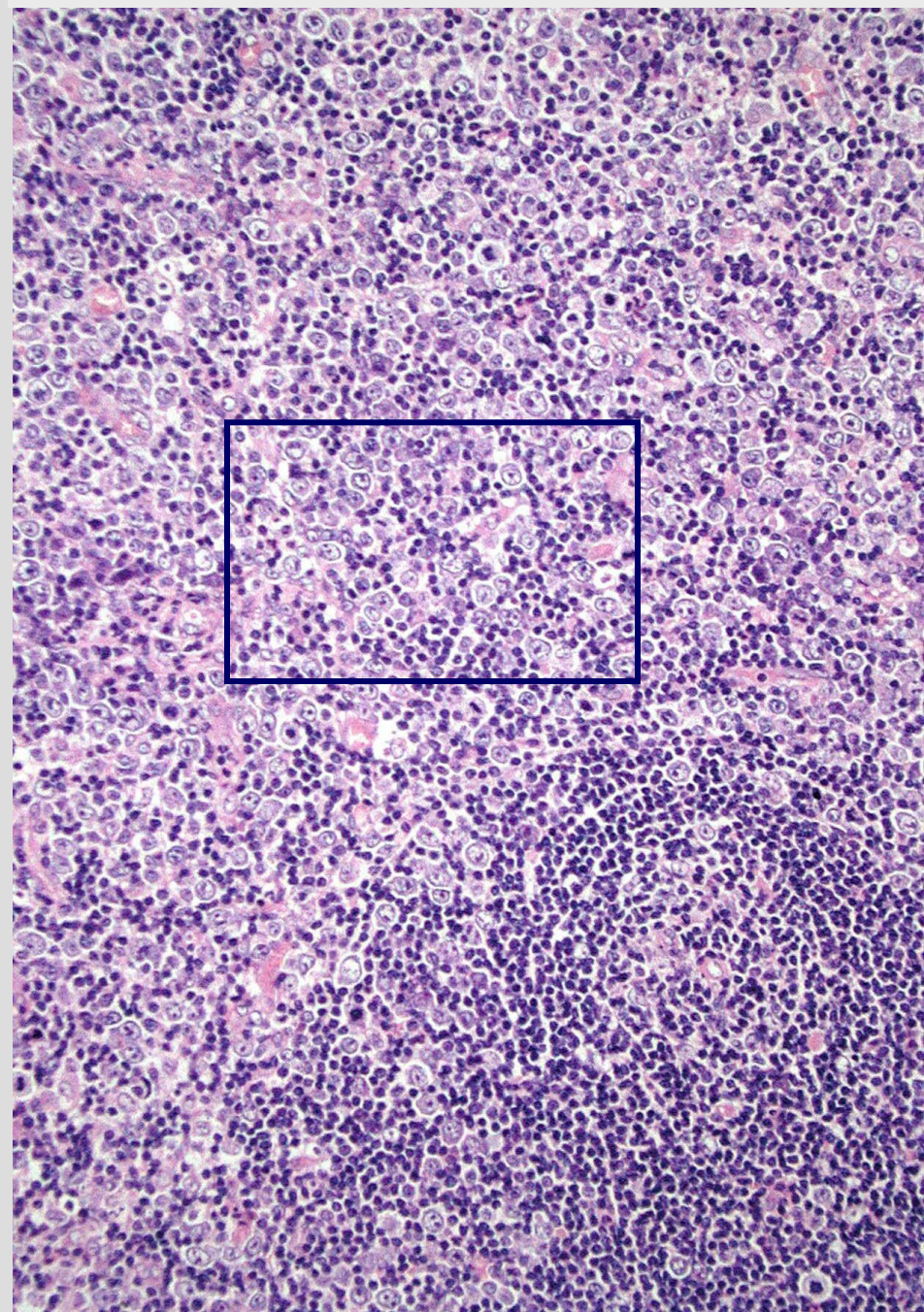
Serum level



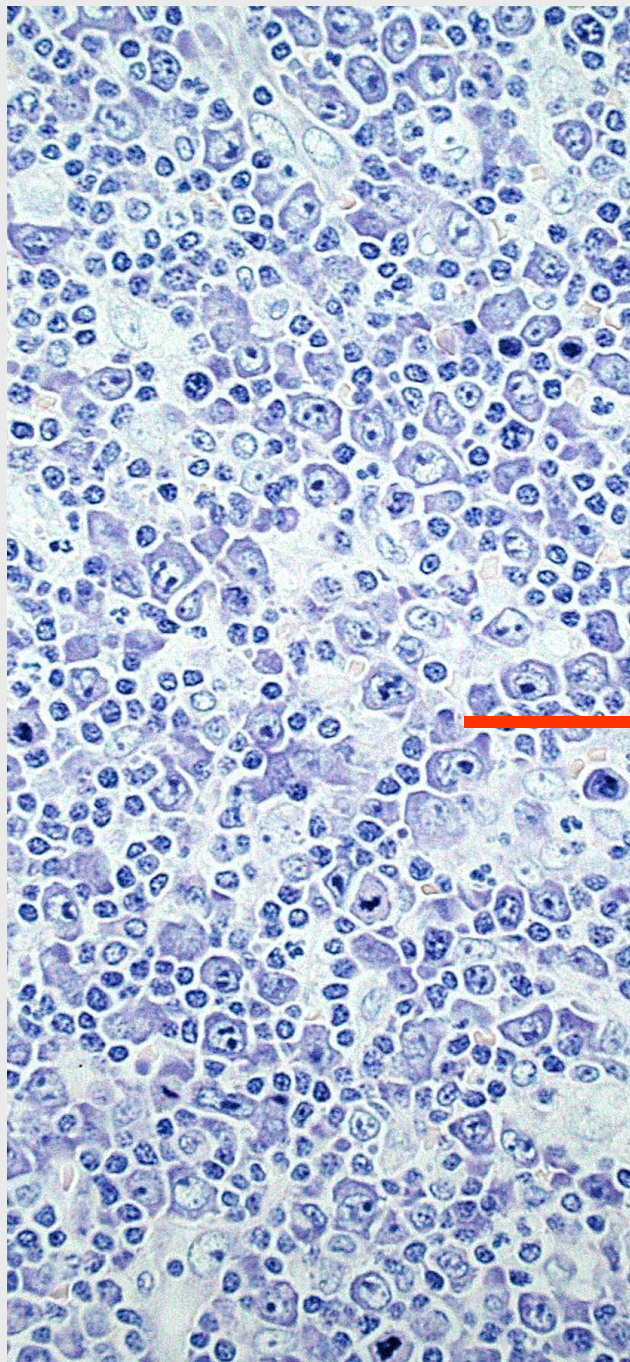
Germinal center reaction



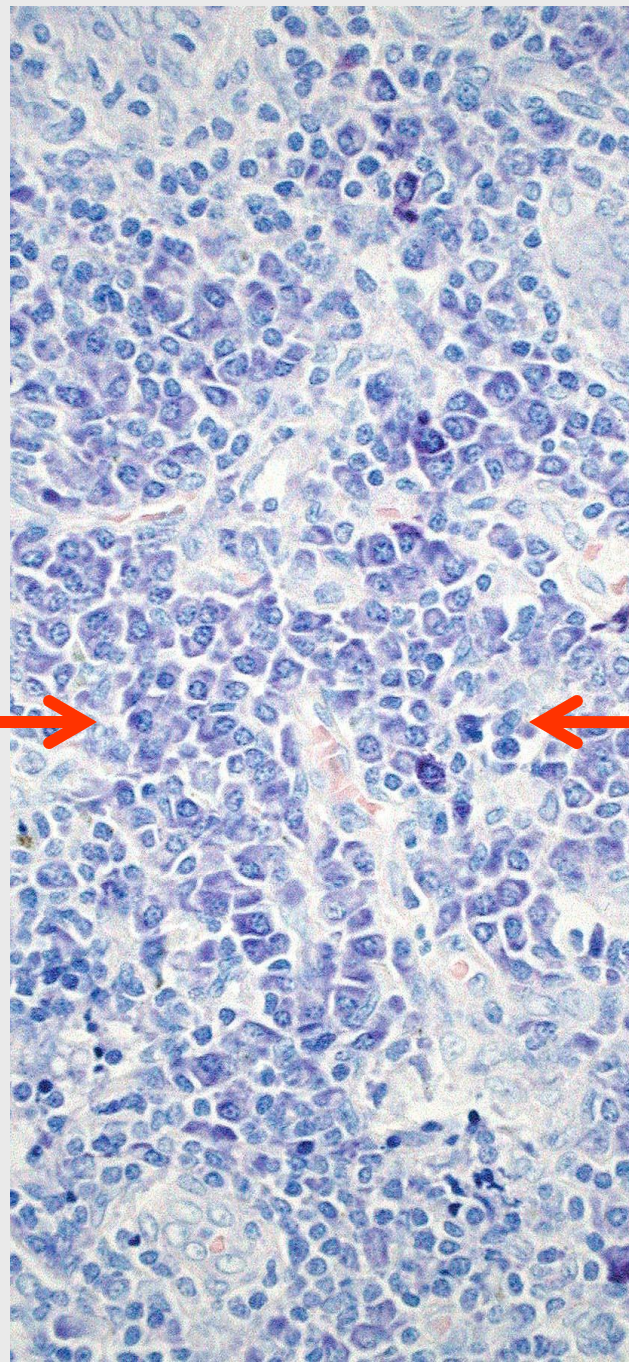
Extrafollicular reaction



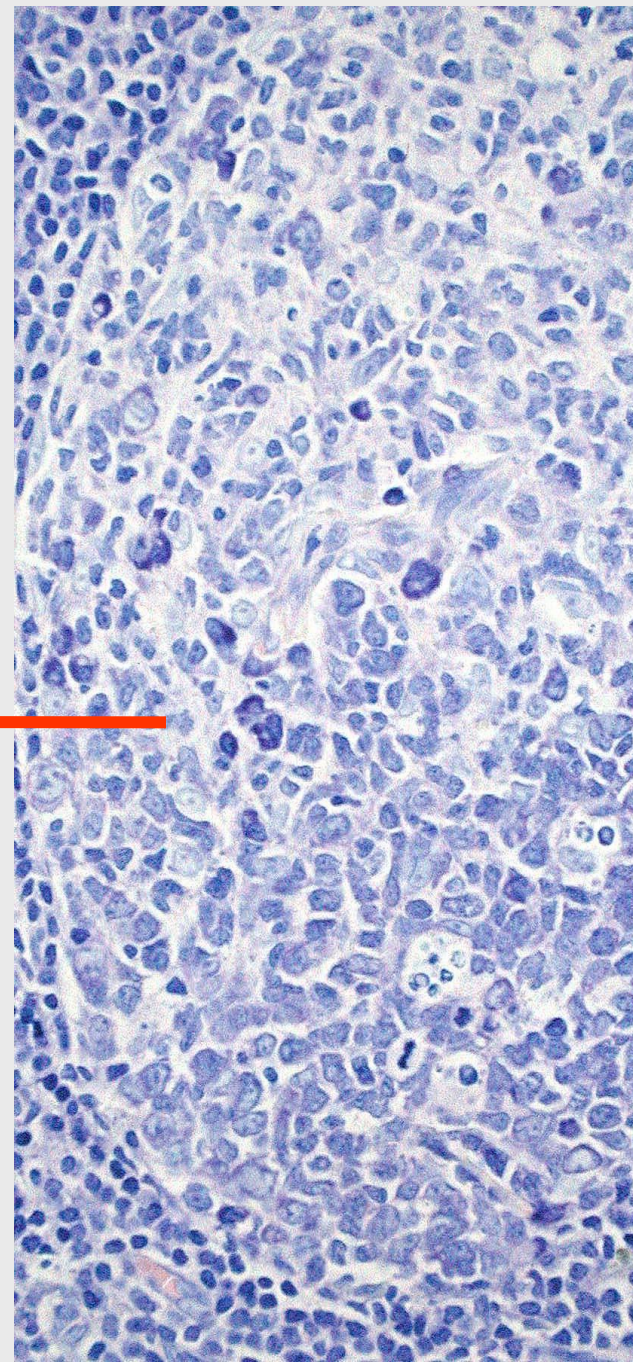
Extrafollicular activation

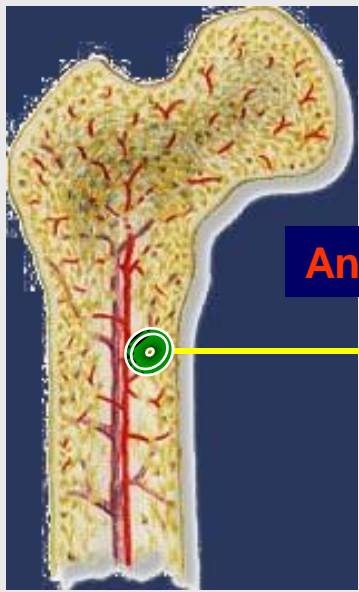


Medullary cords

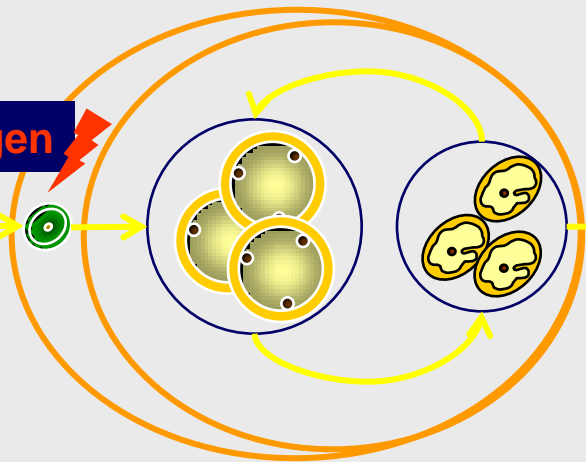


Germinal center



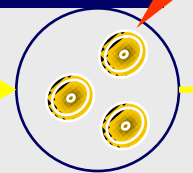


Antigen

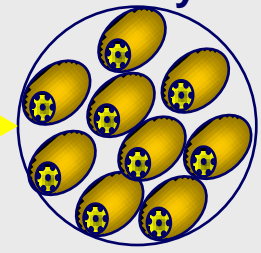
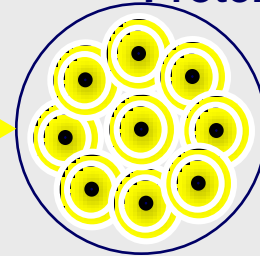


**Memory cell
Reactive Memory**

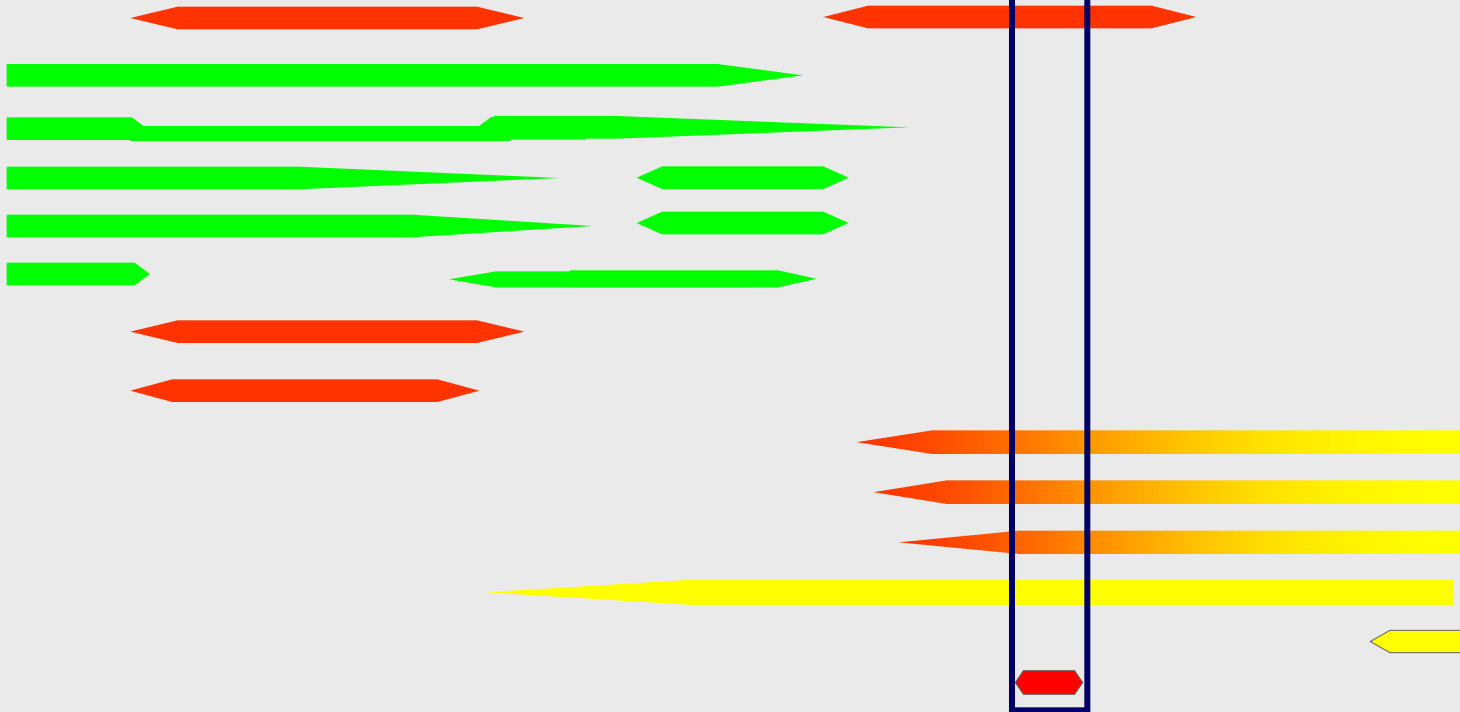
Antigen



**Plasma cell
Protective Memory**



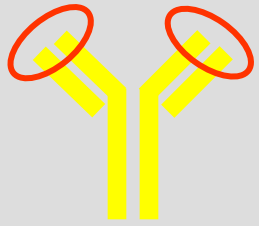
- Ki67**
- CD20**
- CD79a**
- PAX5**
- PU1**
- BCL2**
- CD10**
- BCL6**
- IRF-4**
- BLIMP-1**
- IgL**
- CD27**
- CD138**
- CD30**



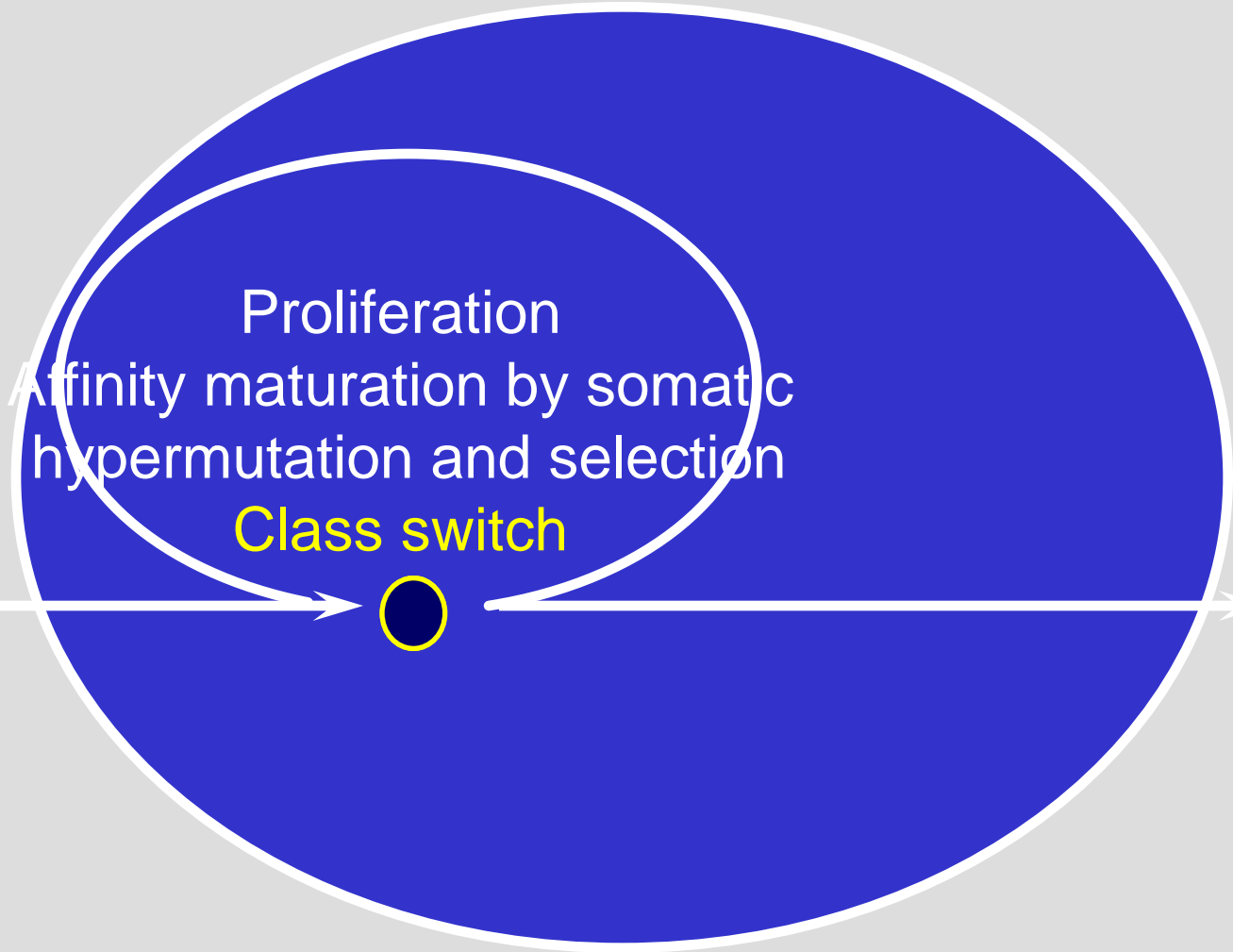
Literature

Brighenti A, Andrulis M, Geissinger E et al. (2005) Extrafollicular proliferation of B cells in the absence of follicular hyperplasia: a distinct reaction pattern in lymph nodes correlated with primary or recall type responses. *Histopathology* 47:90-100

Liu YJ, Zhang J, Lane PJ, Chan EY, MacLennan IC. Sites of specific B cell activation in primary and secondary responses to T cell-dependent and T cell-independent antigens. *Eur J Immunol.* 1991;21(12):2951-2962.



Germinal Center



B Cell

Plasma-cell

CD27⁻
IgM⁺

CD27⁺
IgM⁻
IgG/A⁺