

Case 19

55 year old Chinese woman.
Excision biopsy of a right breast lump.



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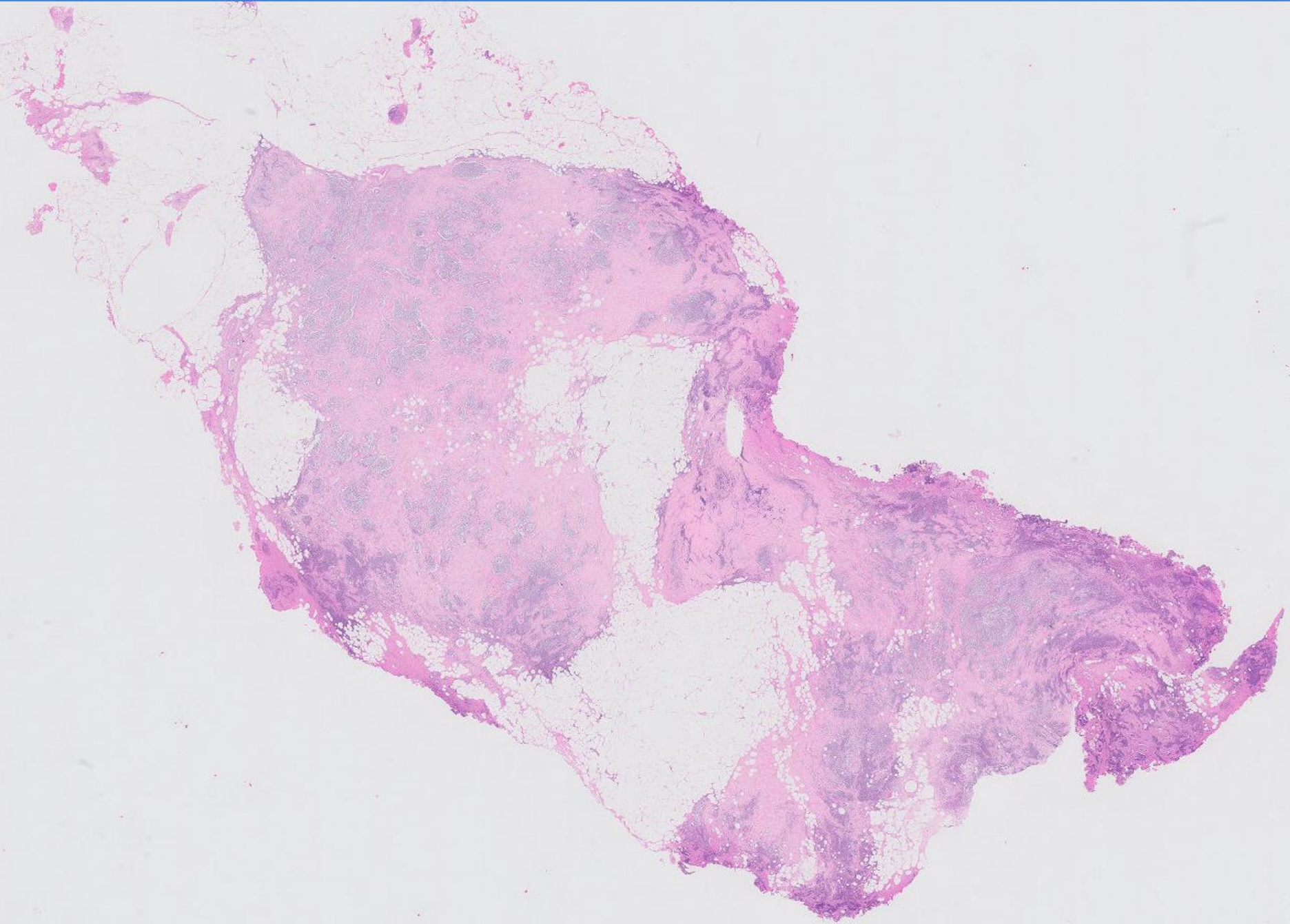
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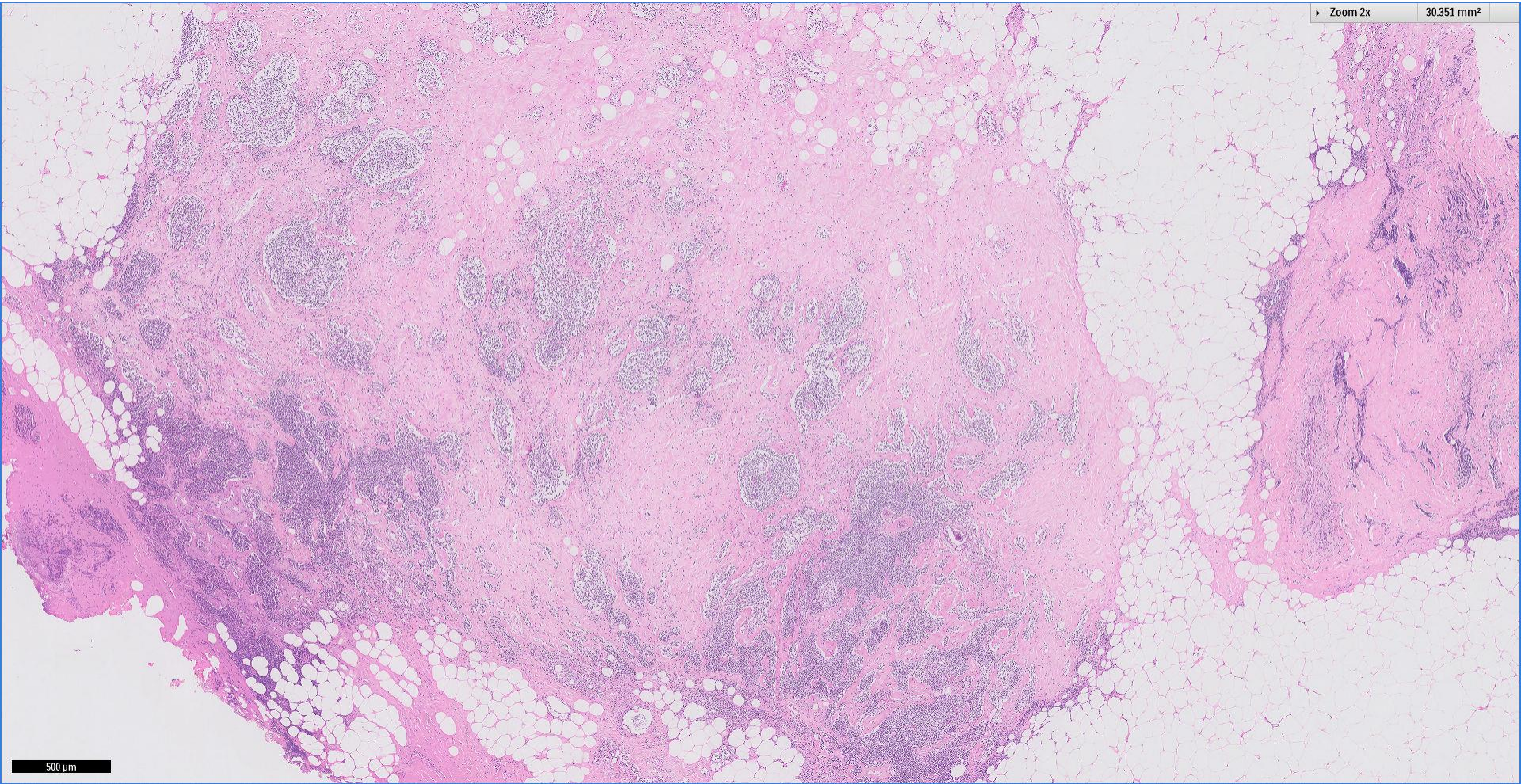
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Zoom 2x

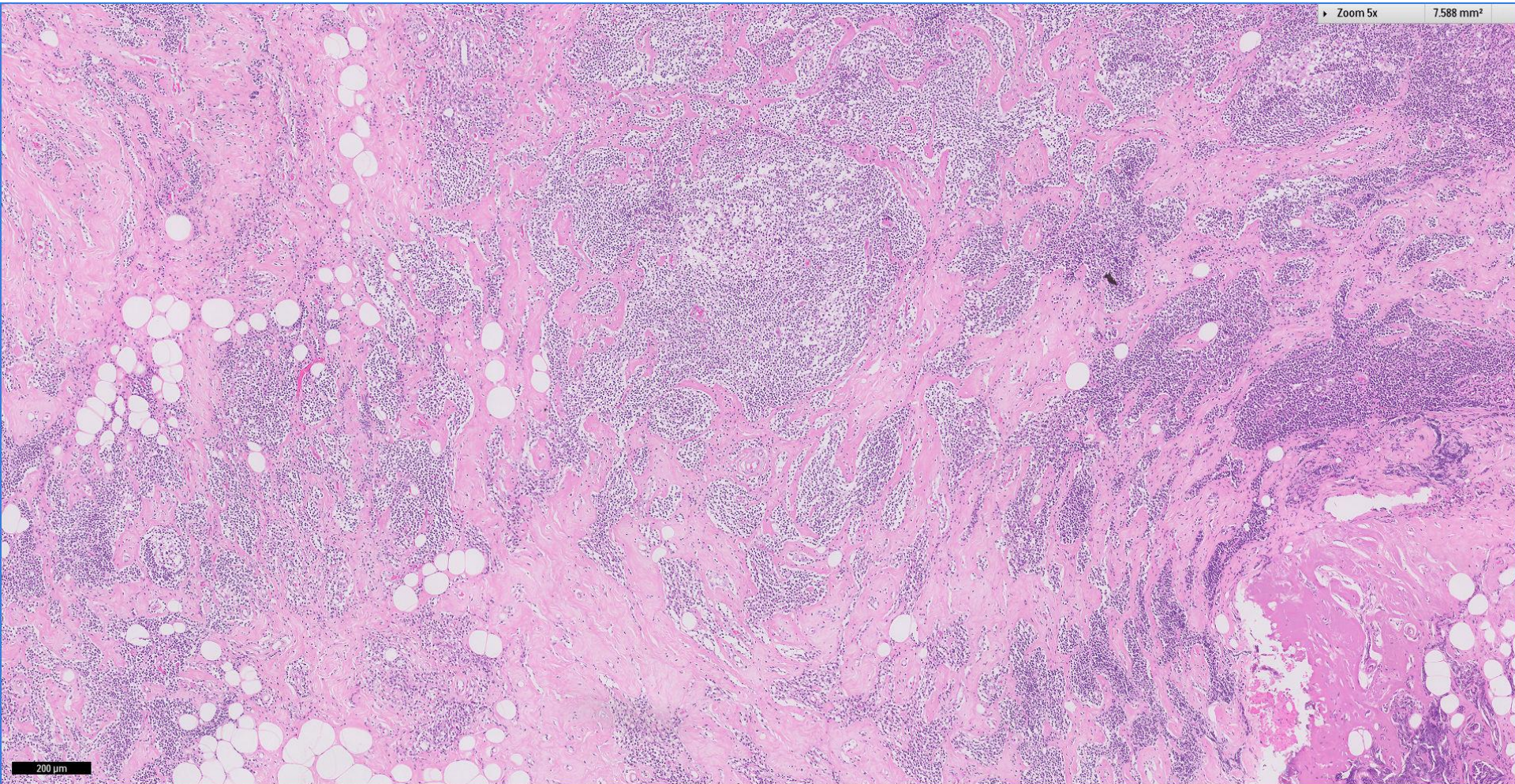
30.351 mm²



500 μ m

Zoom 5x

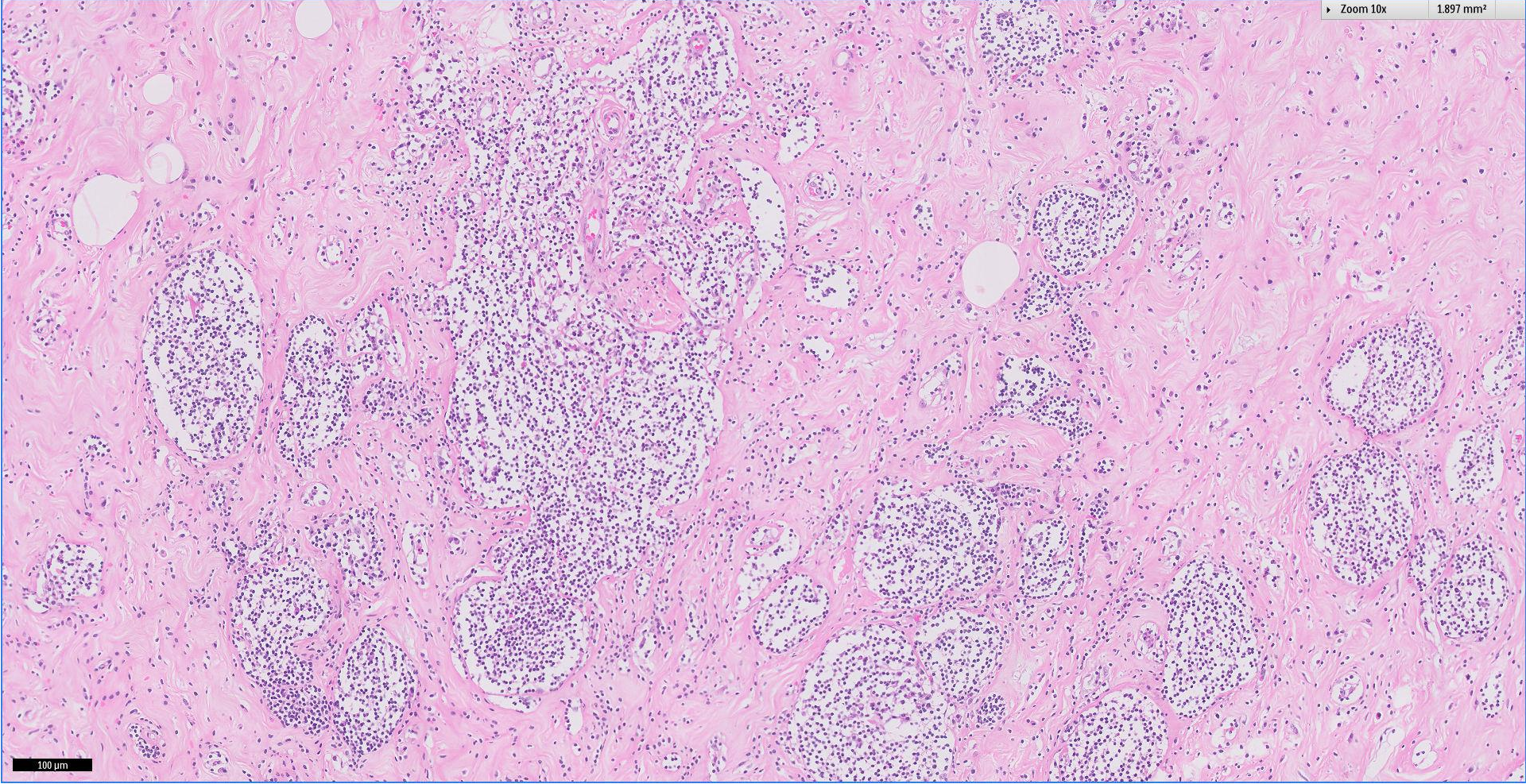
7.588 mm²



200 μ m

Zoom 10x

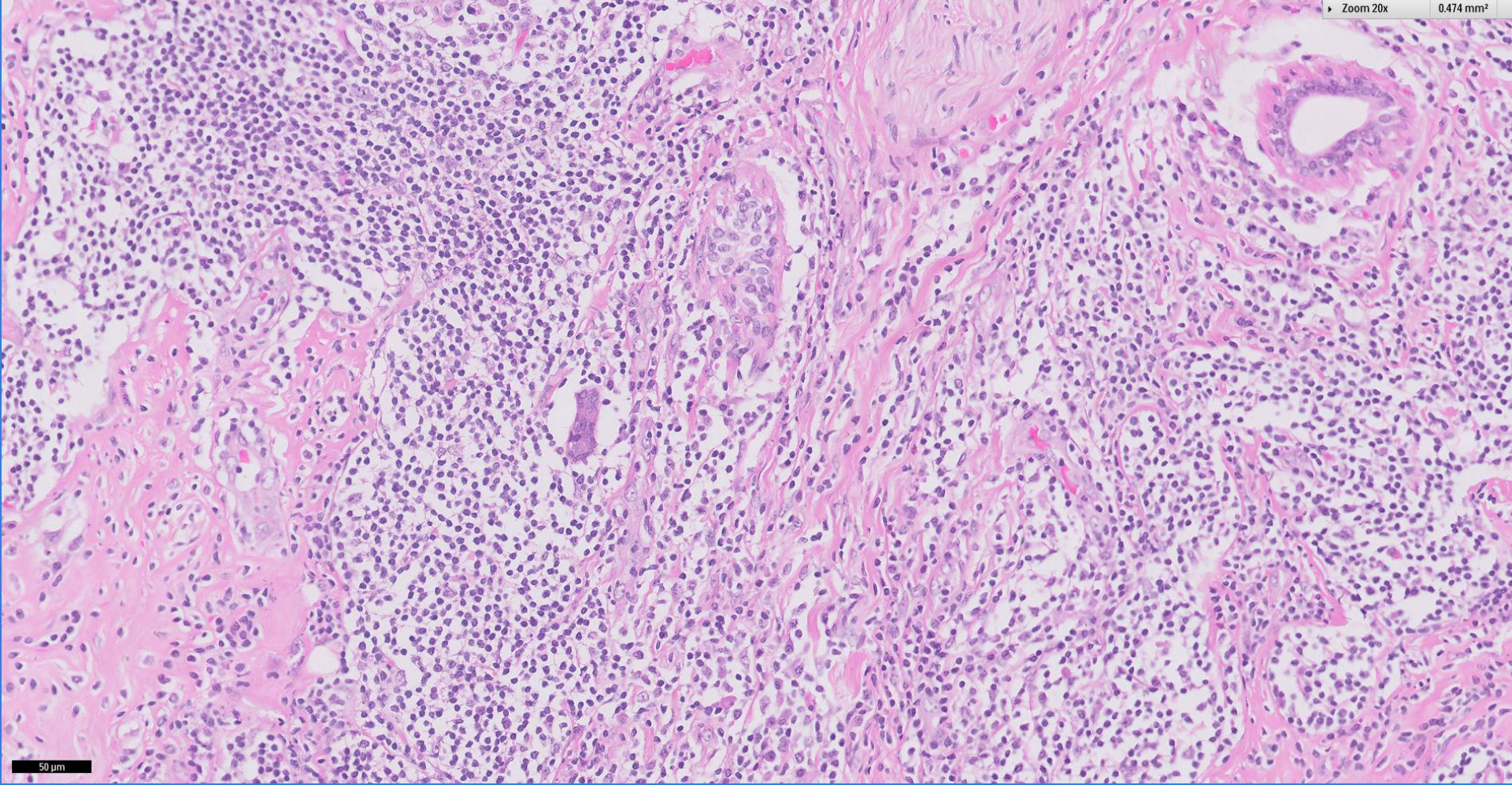
1.897 mm²



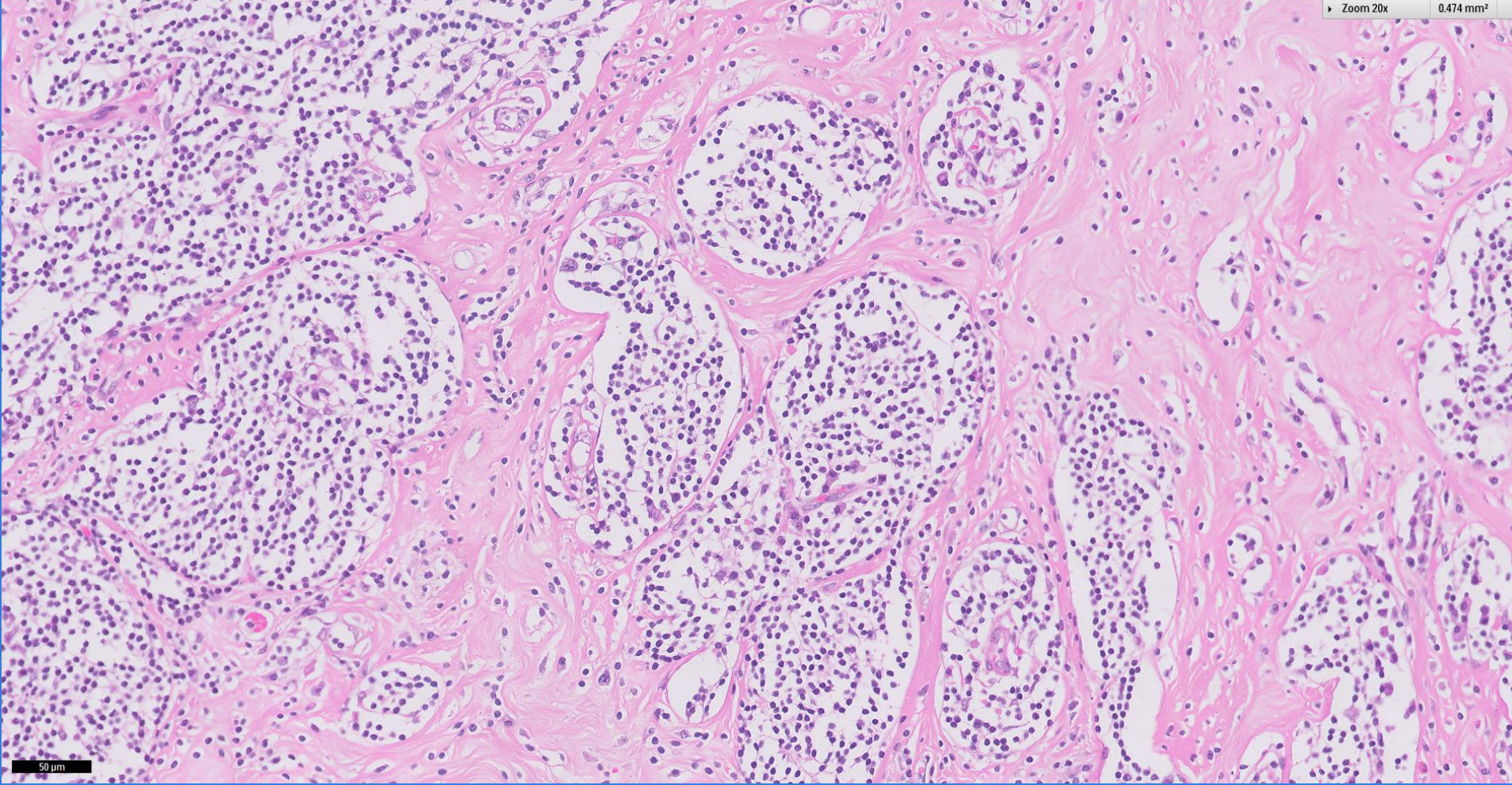
100 μm

Zoom 20x

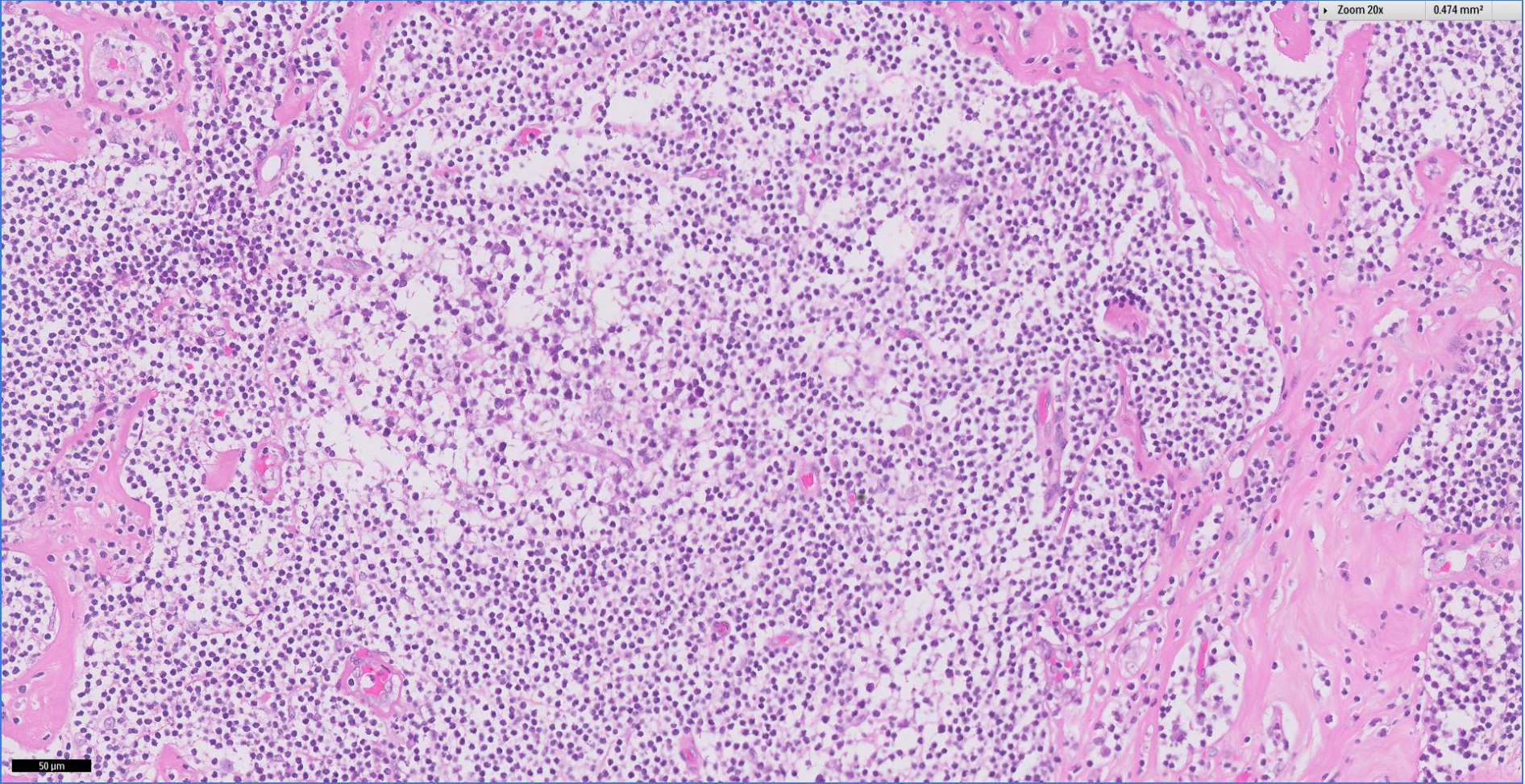
0.474 mm²



50 μm

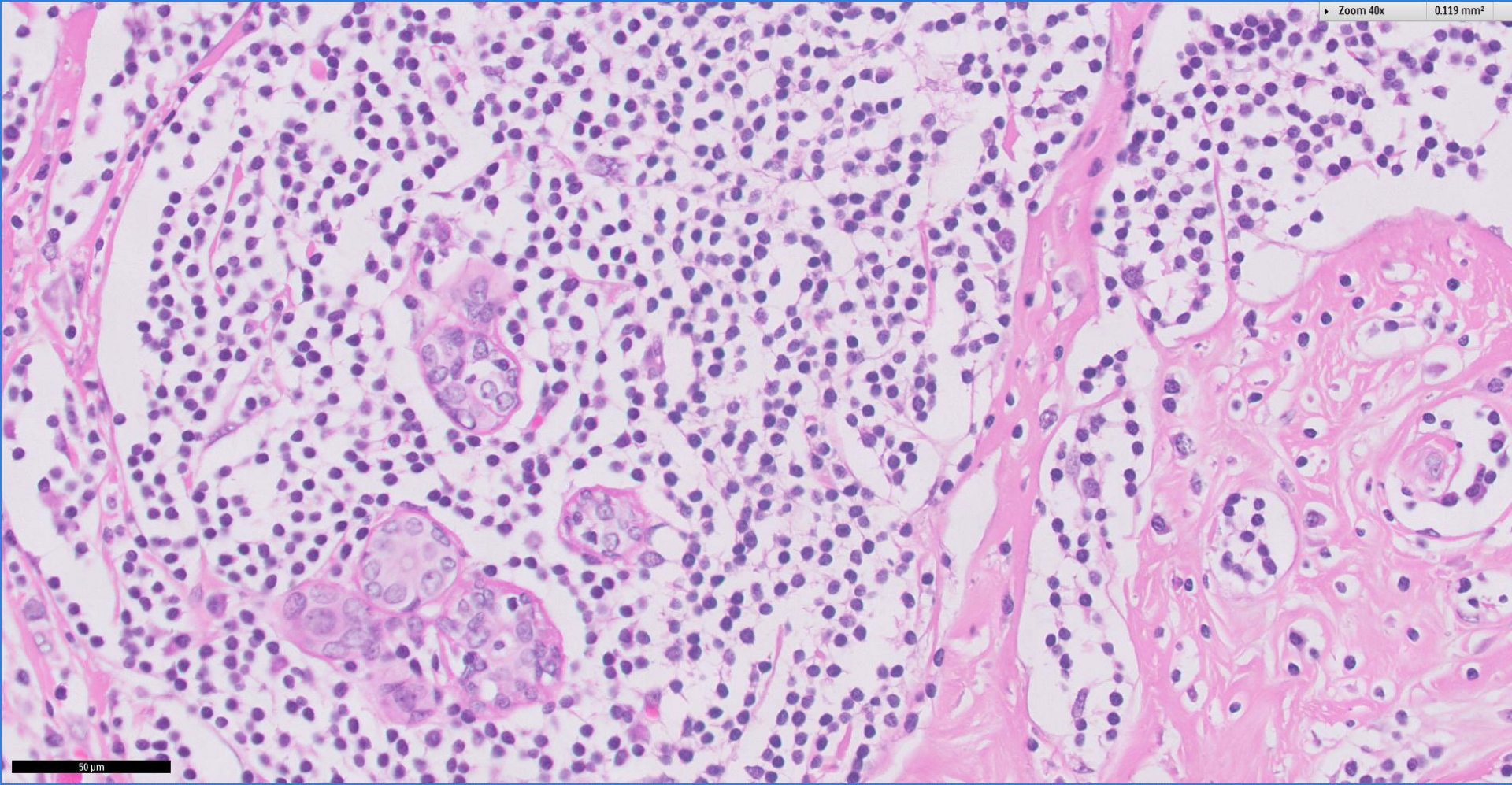


50 µm

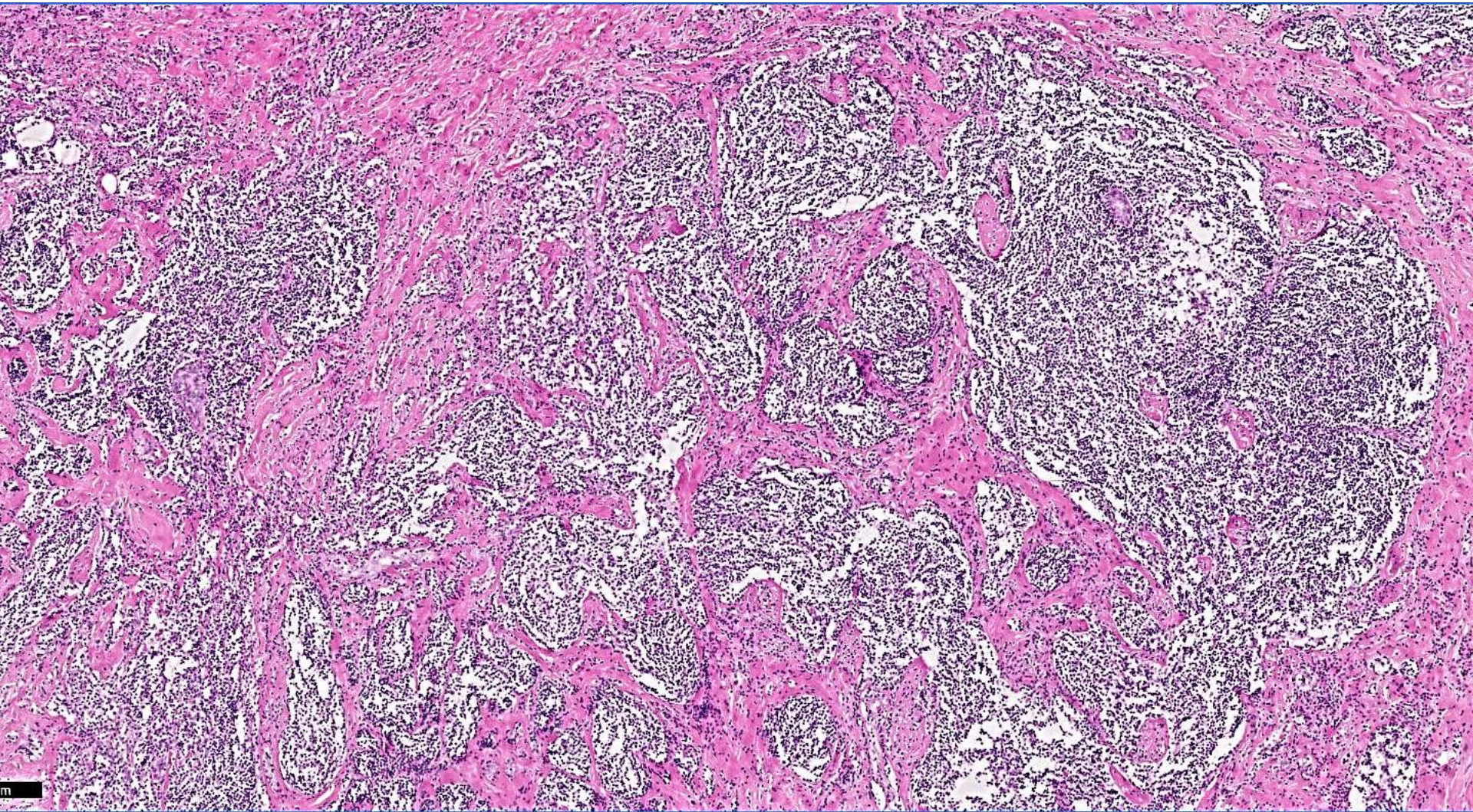


Zoom 40x

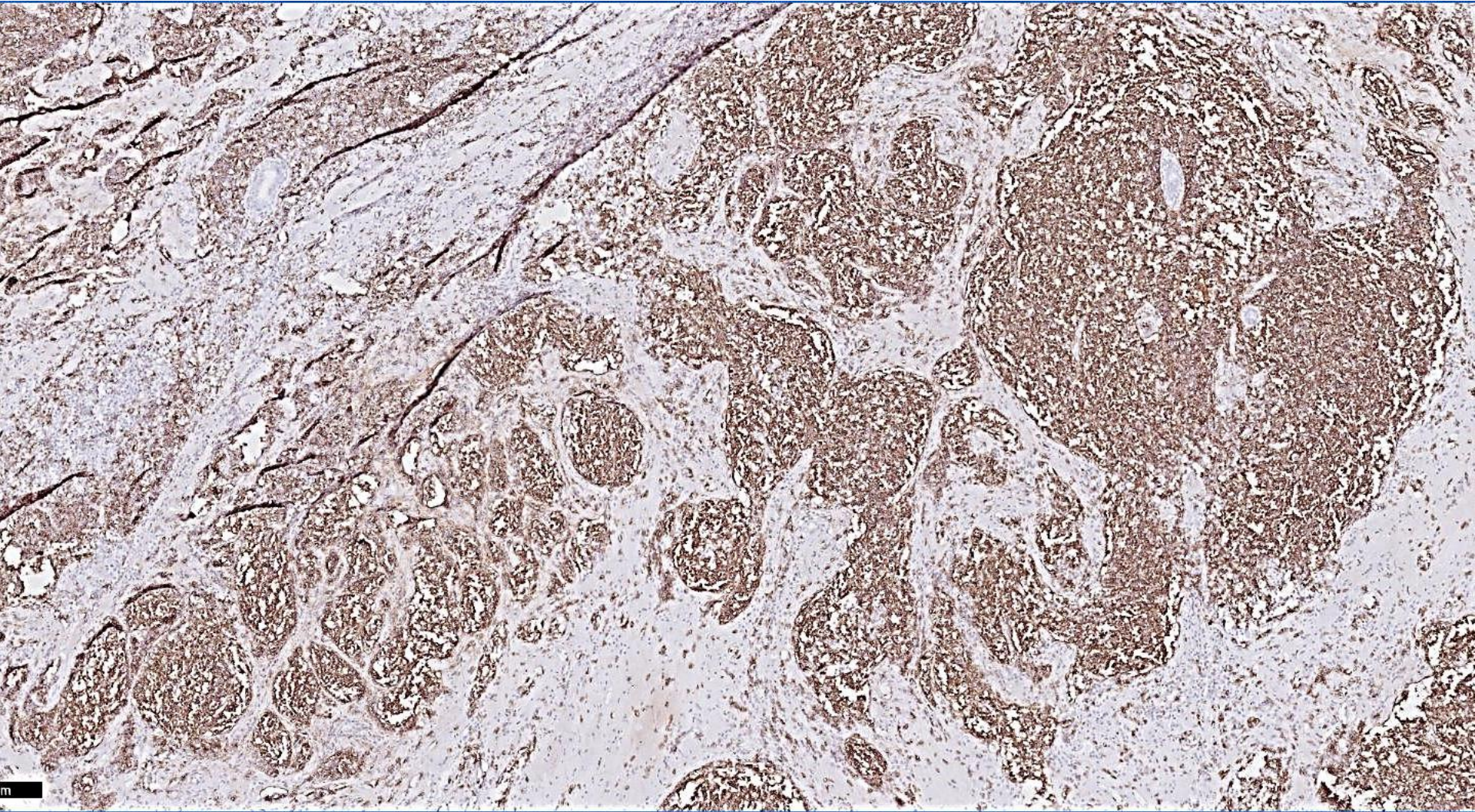
0.119 mm²



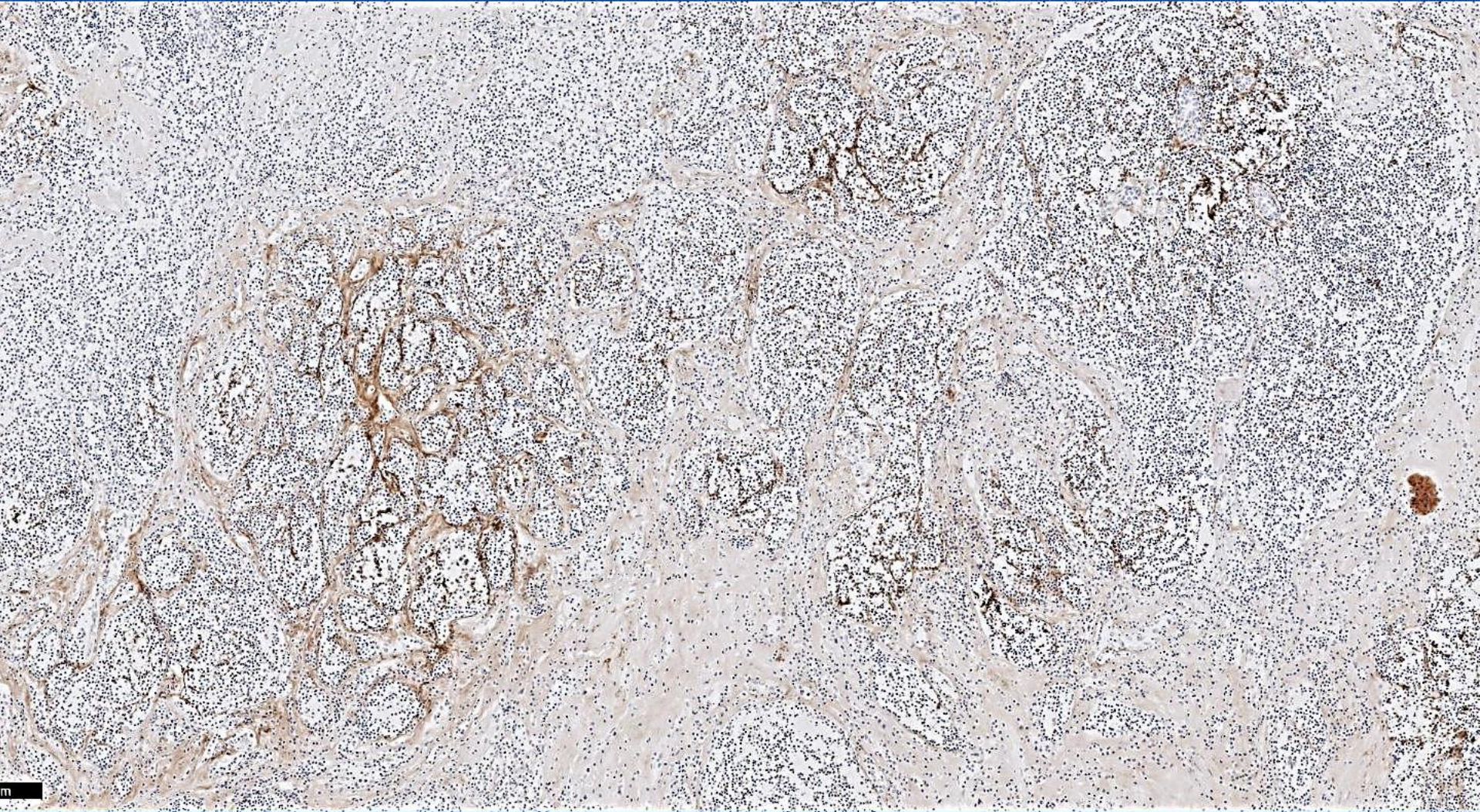
50 µm



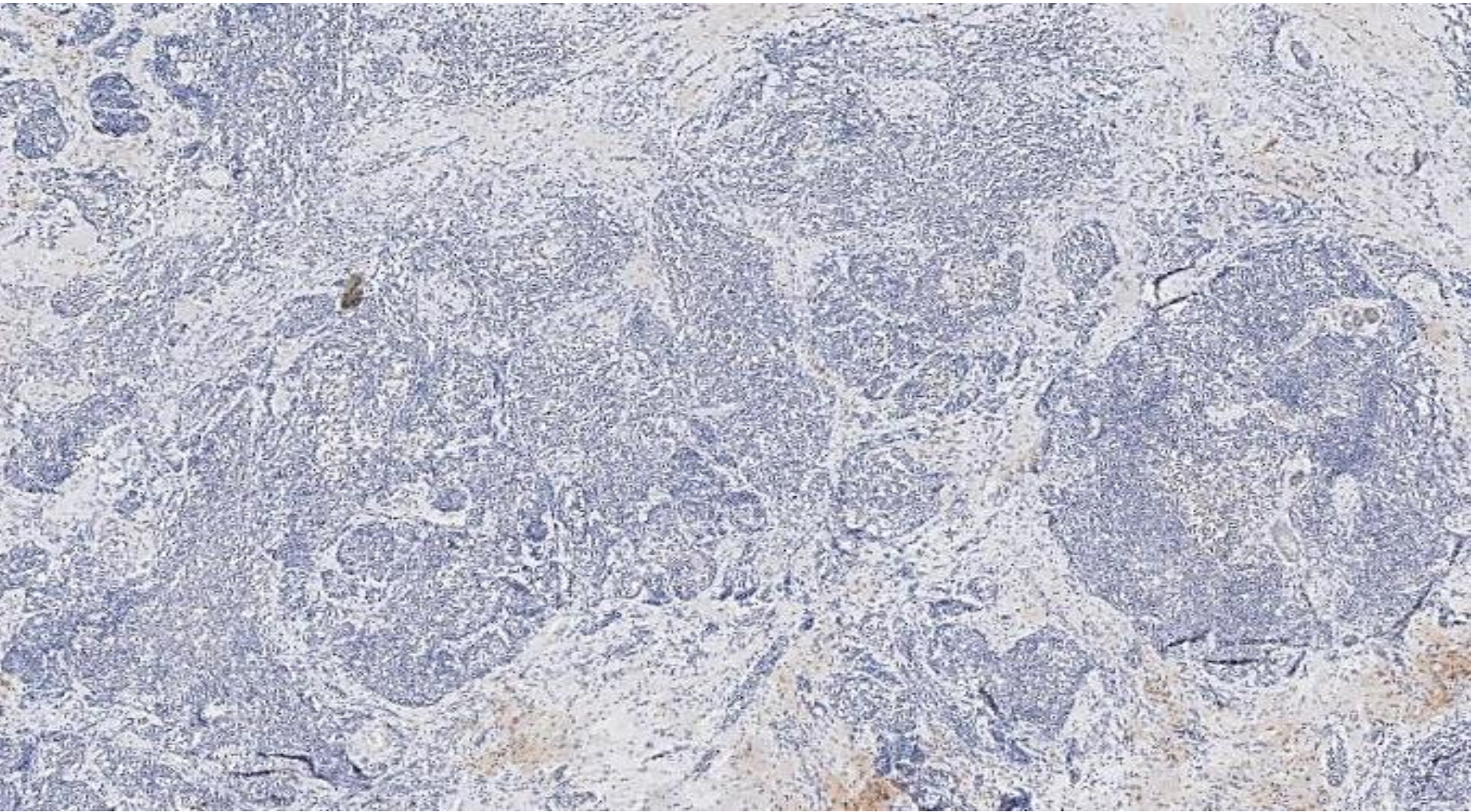
CD20 – nodular B-lymphoproliferation



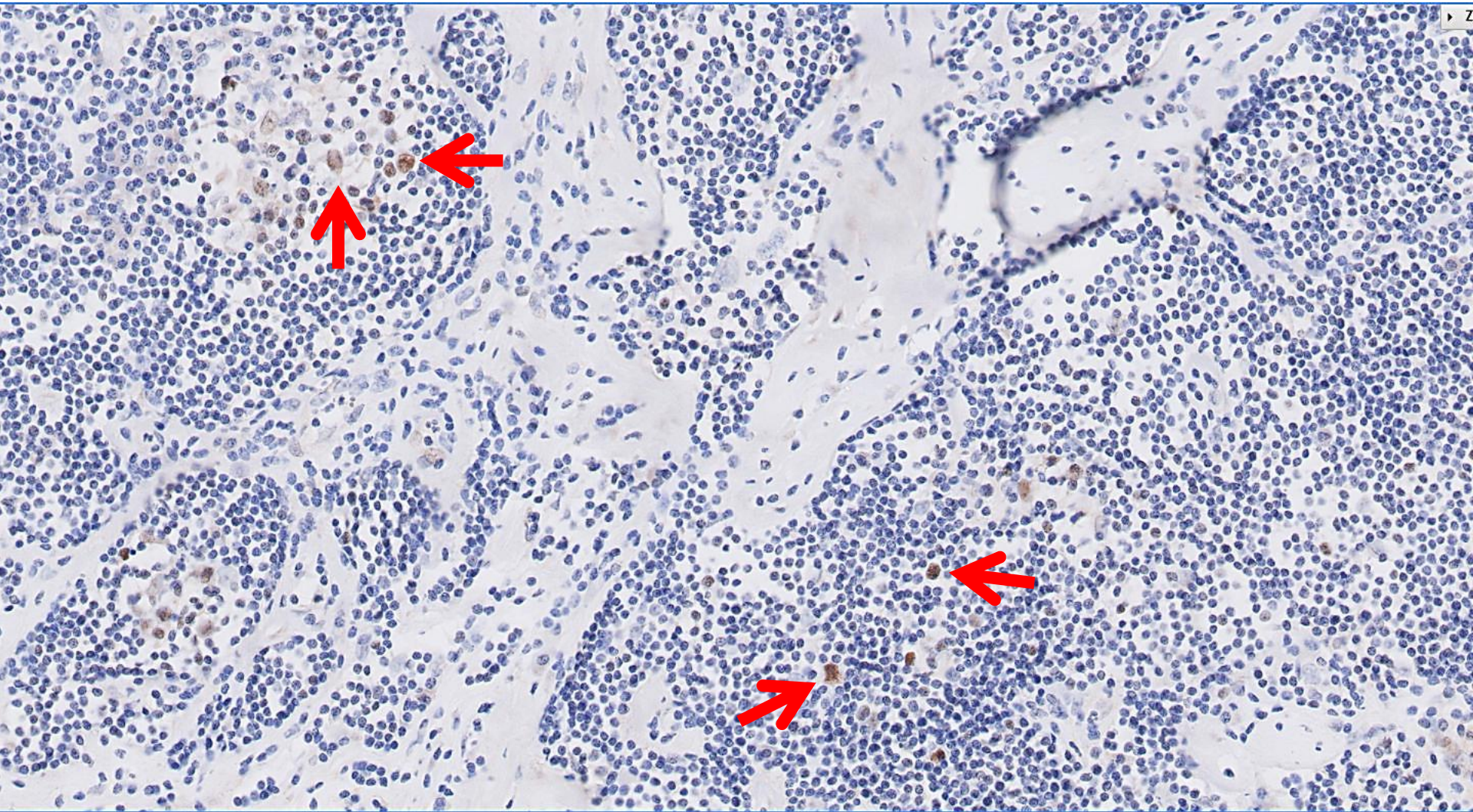
CD21 – follicular dendritic recruitment



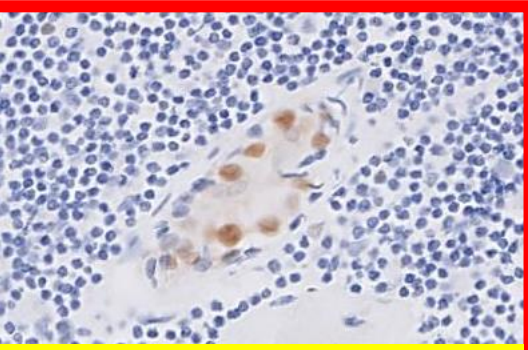
bcl-6 –ve (excludes follicular lymphoma)



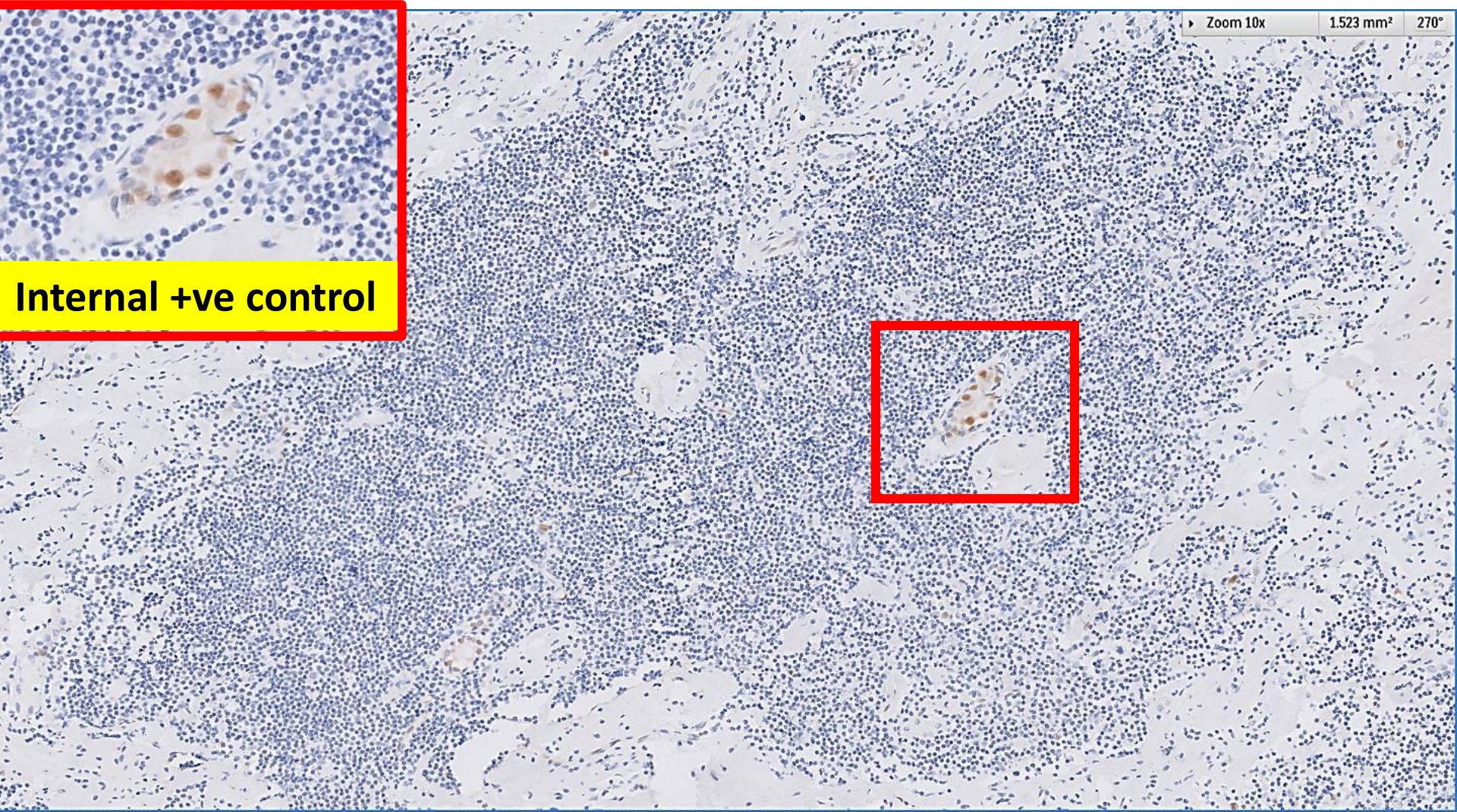
bcl-6 – scattered, residual germinal centre cells



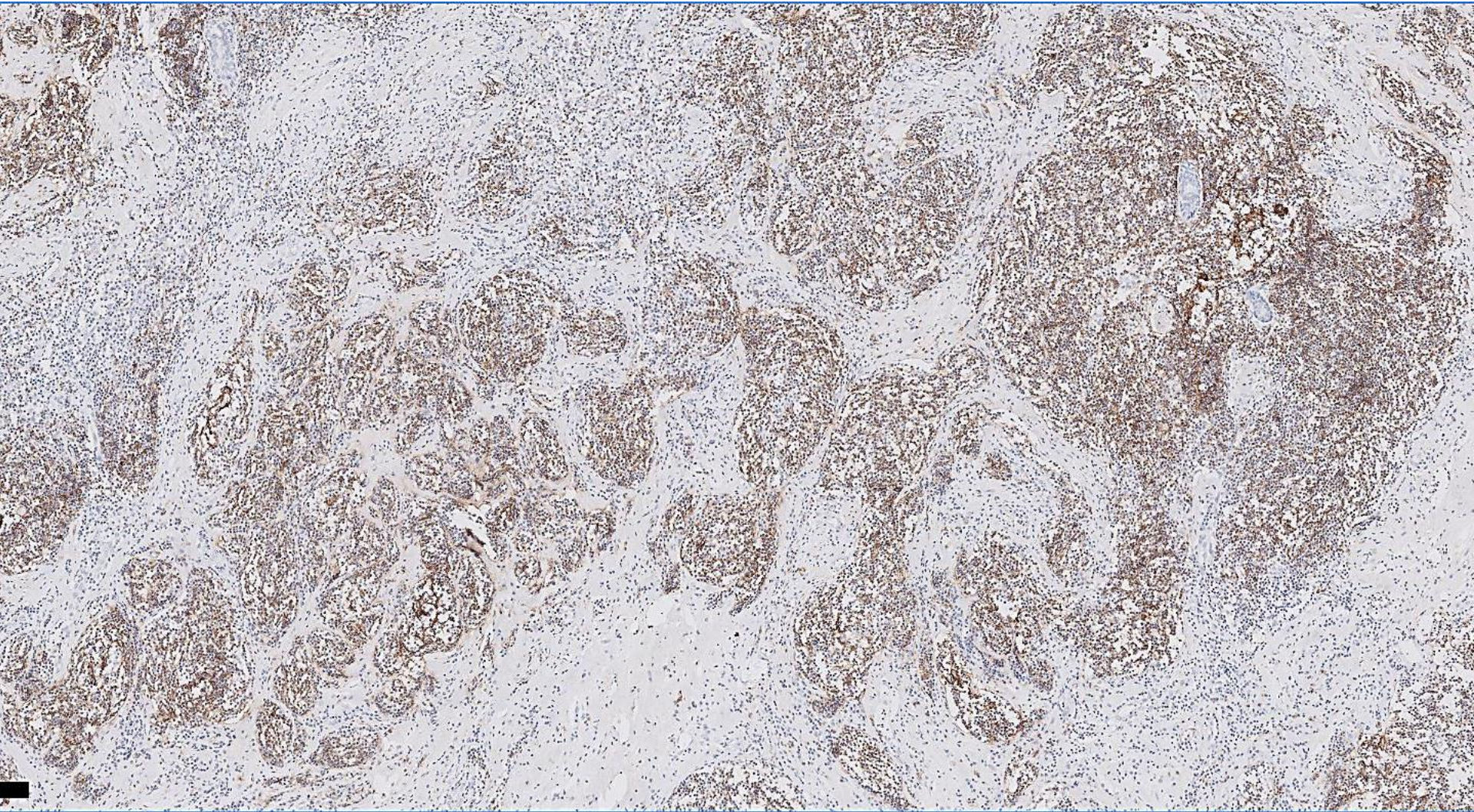
Cyclin D1 -ve (excludes mantle cell lymphoma)



Internal +ve control

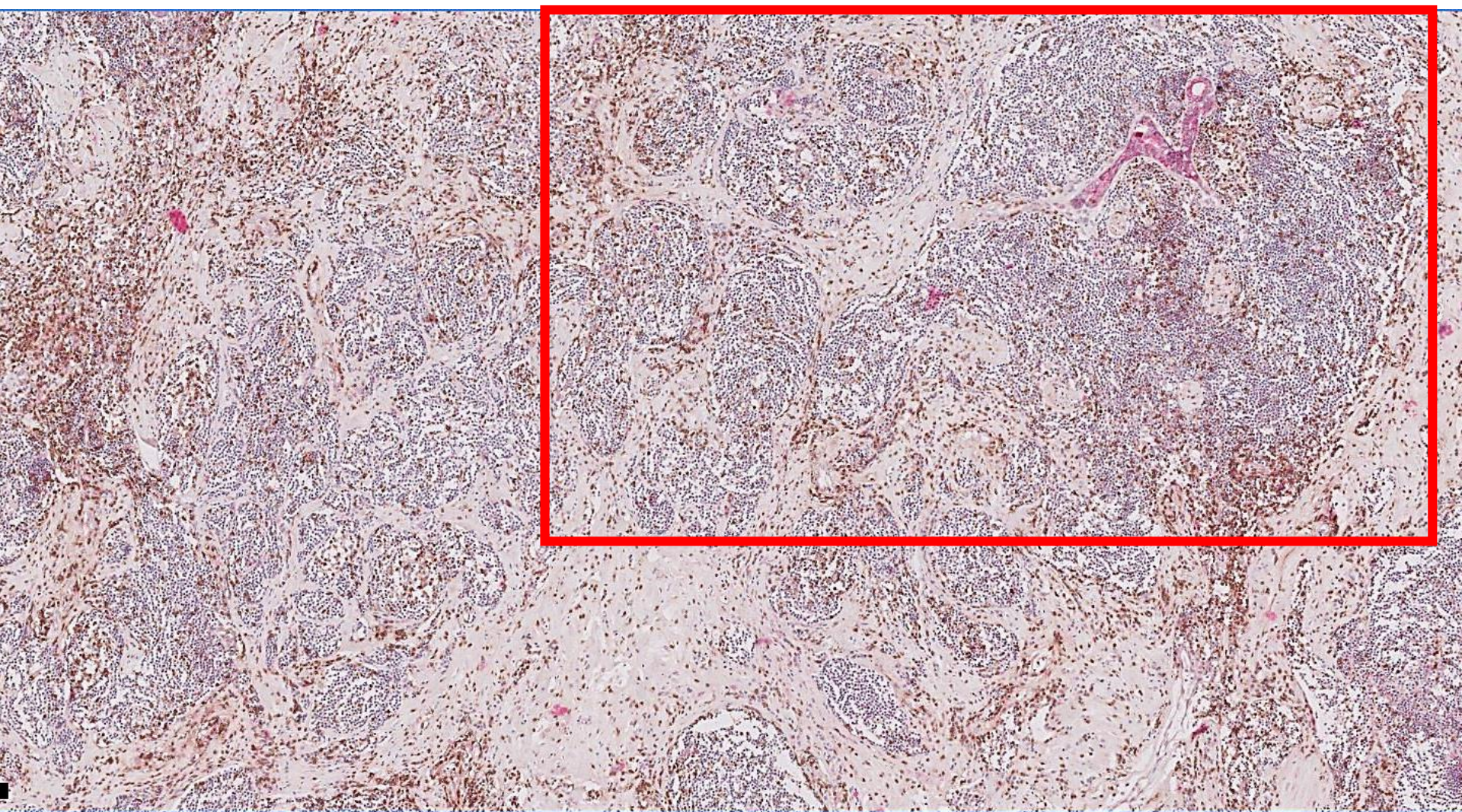


CD23 +ve

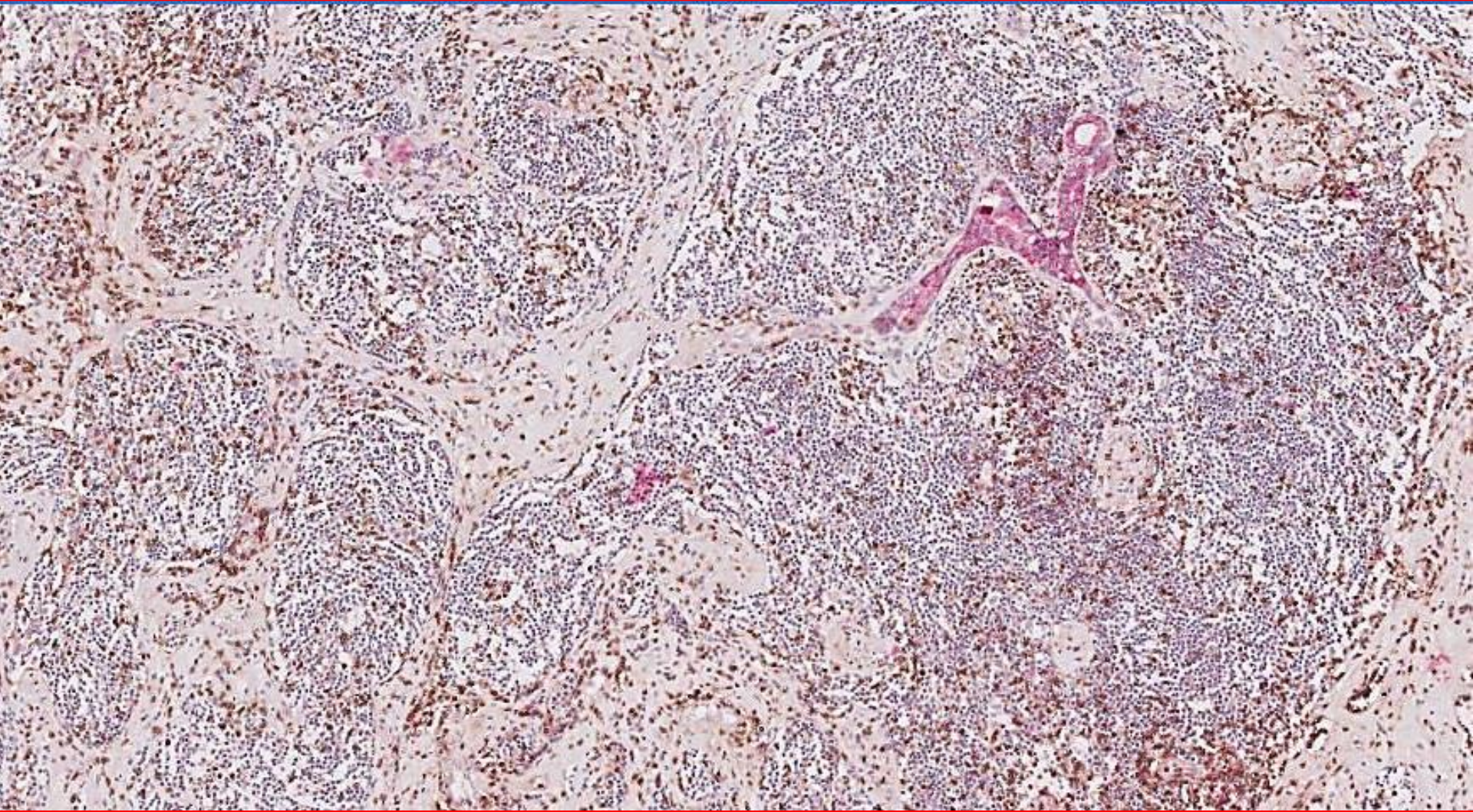


BUT.....

CD3(brown – reactive T-cells)/CD5(red)

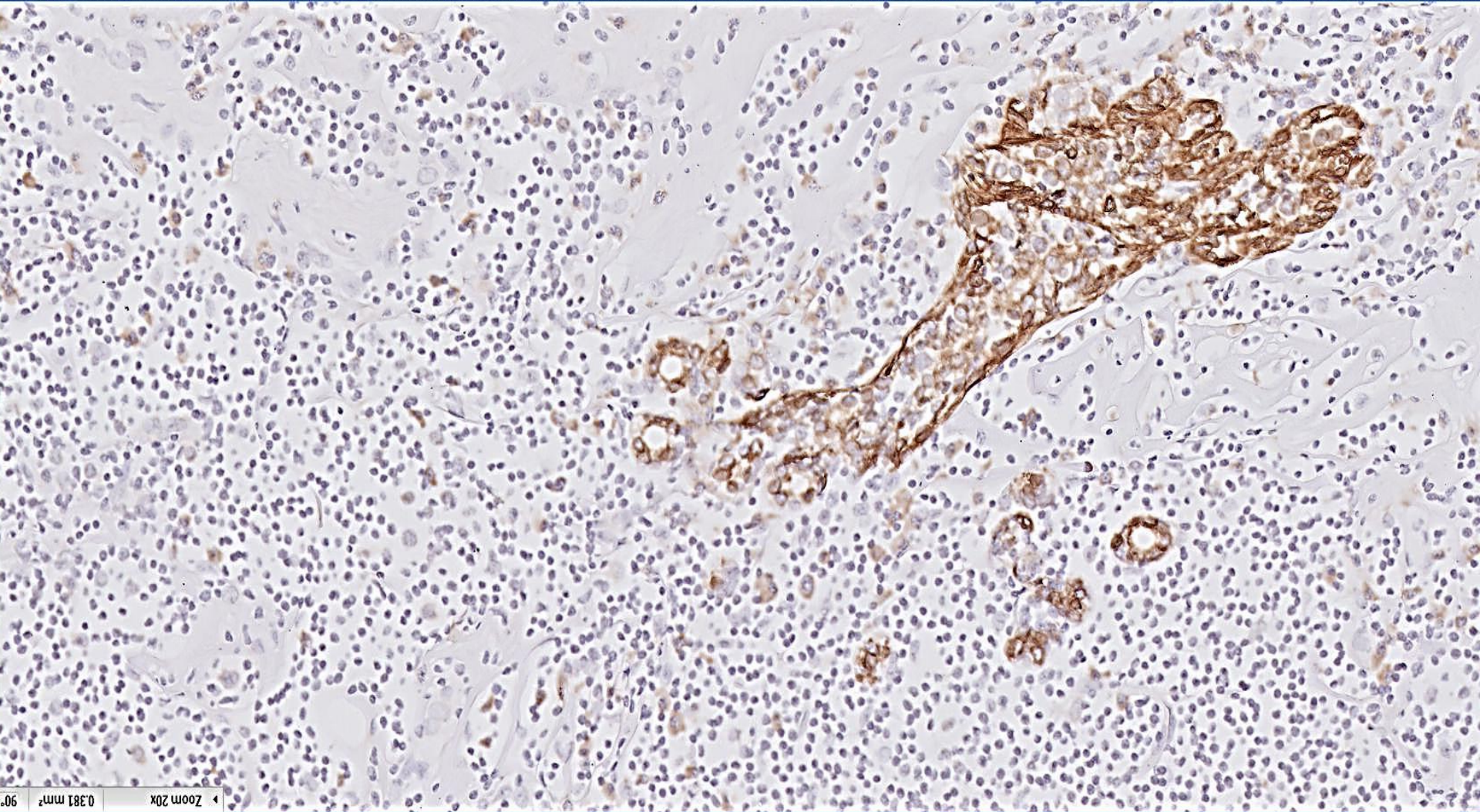


CD5 -ve lymphoma (epithelial +ve control only)

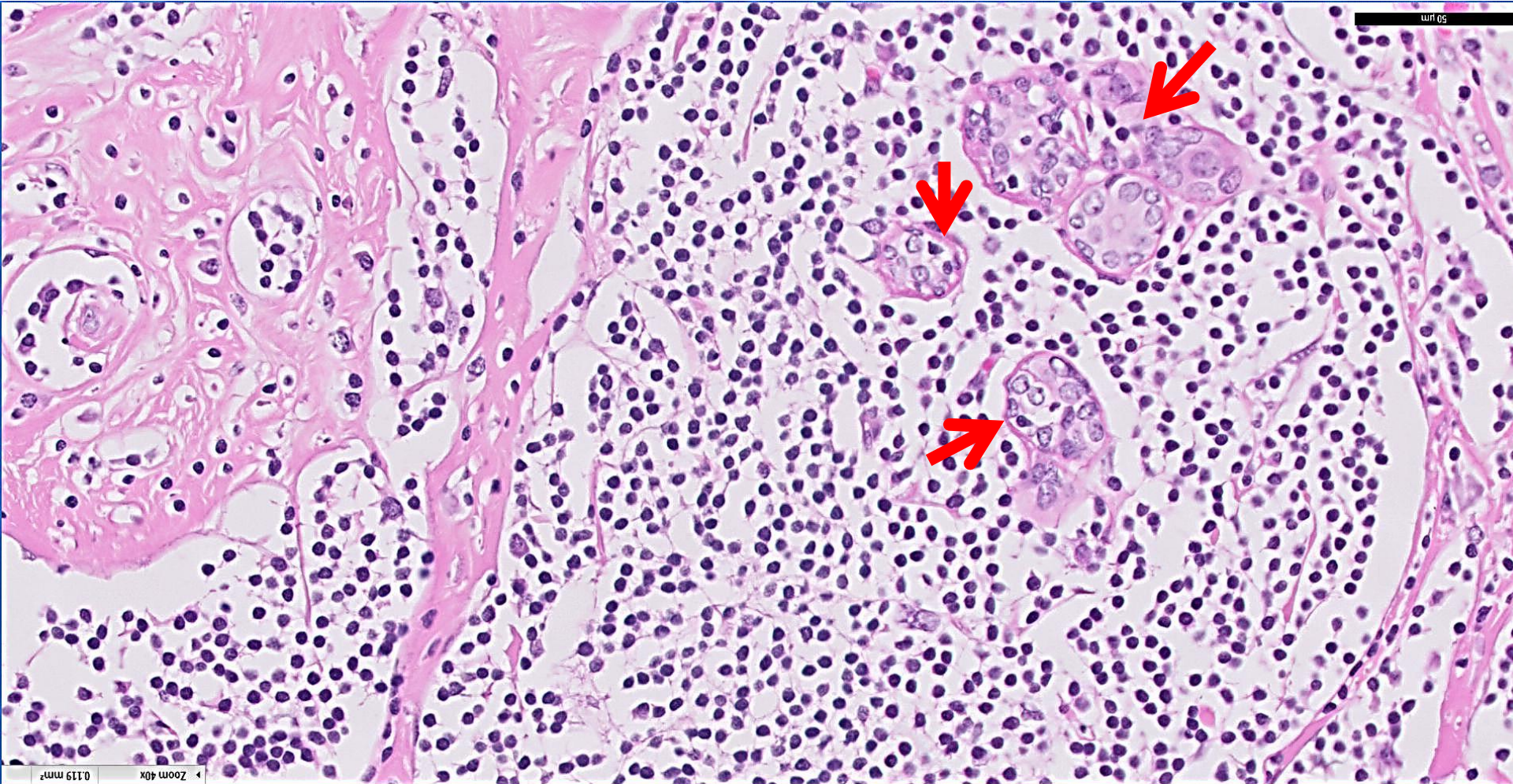


....excludes SLL/CLL

MNF116 – lymphoepithelial lesions



H&E – lymphoepithelial lesions



Immunoarchitecture

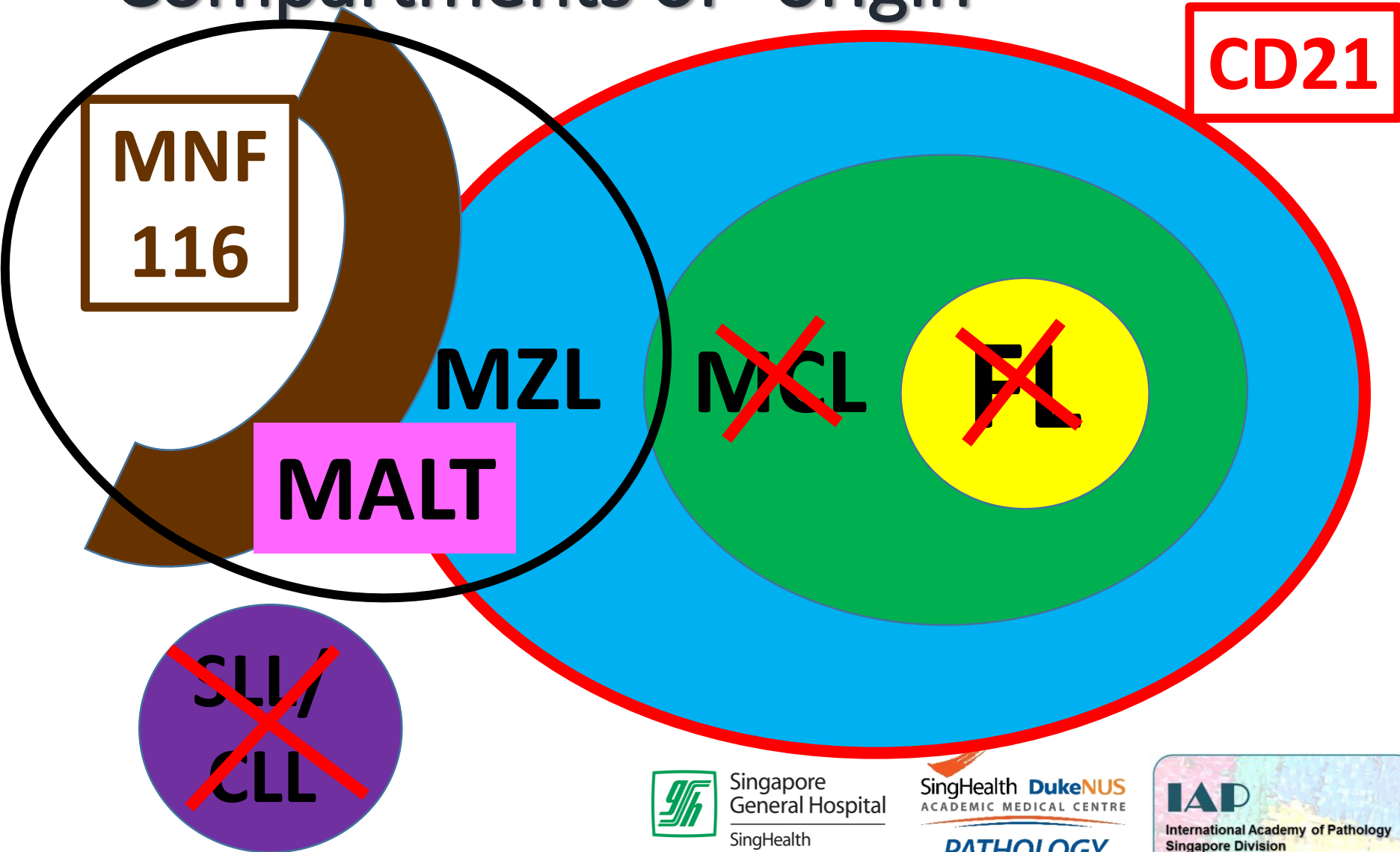
- CD20 & CD21: folliculocentric B-lymphoproliferation.
- CD21 & bcl-6: follicular colonisation.
- bcl-6 negative: **not** follicular lymphoma (FL).
- Cyclin D1 negative: **not** mantle cell lymphoma (MCL).
- CD5 negative: **not** SLL/CLL.
- MNF116: relationship with epithelium.
- **Diagnosis: marginal zone lymphoma of MALT.**



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Compartments of "origin"



Diagnosis

Right breast lump, excision biopsy ~

Low grade B cell lymphoma, consistent with marginal zone lymphoma of MALT.

Acknowledgement to Dr Leonard Tan for reviewing the case and contributing immunohistochemical slides



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Breast lymphoma

- Lymphoma may be primary in the breast.
- Systemic lymphomas can also secondarily involve the breast.
- Primary lymphoma of the breast is often defined as a tumour limited to the breast and regional lymph nodes in a patient with no prior history of lymphoma.
- It has been suggested that primary lymphoma of the breast should be defined in the same way as other extranodal lymphomas:
 - Initial presentation with the dominant mass or symptom in the breast of a patient without prior history of lymphoma elsewhere, even if distant involvement is discovered at staging.
 - The lymphoma should be seen in close proximity to breast tissue, not confined to an intramammary lymph node.

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MALT lymphoma

- Rare in the breast, accounting for < 0.5% of all breast malignancies.
- Usually primary in the breast, but secondary breast involvement by MALT lymphomas from other sites can be seen.
- Affects female adults in the 6th to 7th decades of life.
- Aetiology unknown; association with autoimmune disease implicated.

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MALT lymphoma

- Monocytoid/centrocyte-like lymphoid cells.
- Immunoblasts, plasma cells with Dutcher bodies, hyperplastic B follicles, may be present.
- Lymphoepithelial lesions are characteristic.
- Tumour cells may overrun and colonise reactive B follicles, mimicking follicular lymphoma.
- Transformation into large B cell lymphoma can occur.

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MALT lymphoma

- Immunoprofile ~ phenotypic properties of normal marginal zone/memory B cells.
 - CD20, CD79a, PAX5, BCL2 positive.
 - CD43 can be aberrantly expressed.
 - CD5, CD10, CD23, BCL6, IgD, cyclin D1 negative.
 - Plasma cells are light chain restricted.
 - Underlying follicles involved by MALT lymphoma can show markers of follicular dendritic cells (CD21 & CD23).
- Clinically indolent with 5 year survivals >90%.
- Treated with local therapy ~ radiotherapy, surgical excision.

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Differential diagnosis

- Core biopsy may be particularly challenging.
- Differential diagnosis ~
 - Lymphocytic lobulitis
 - IgG4 sclerosing mastitis
 - Other forms of low grade lymphoma



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