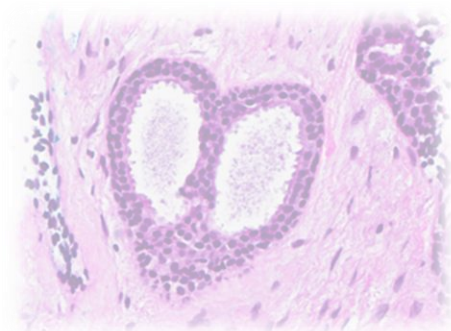
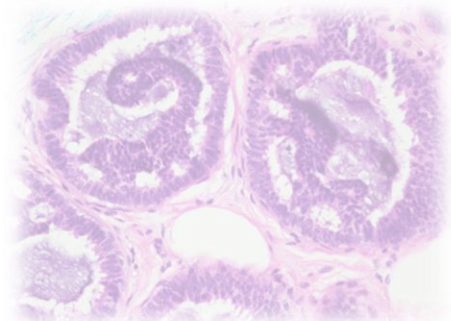
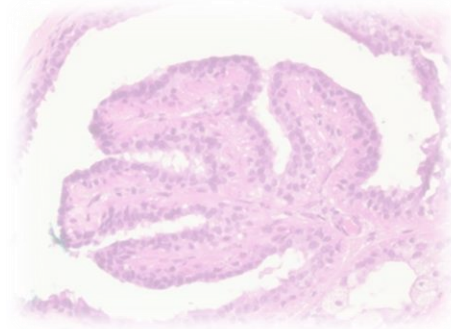
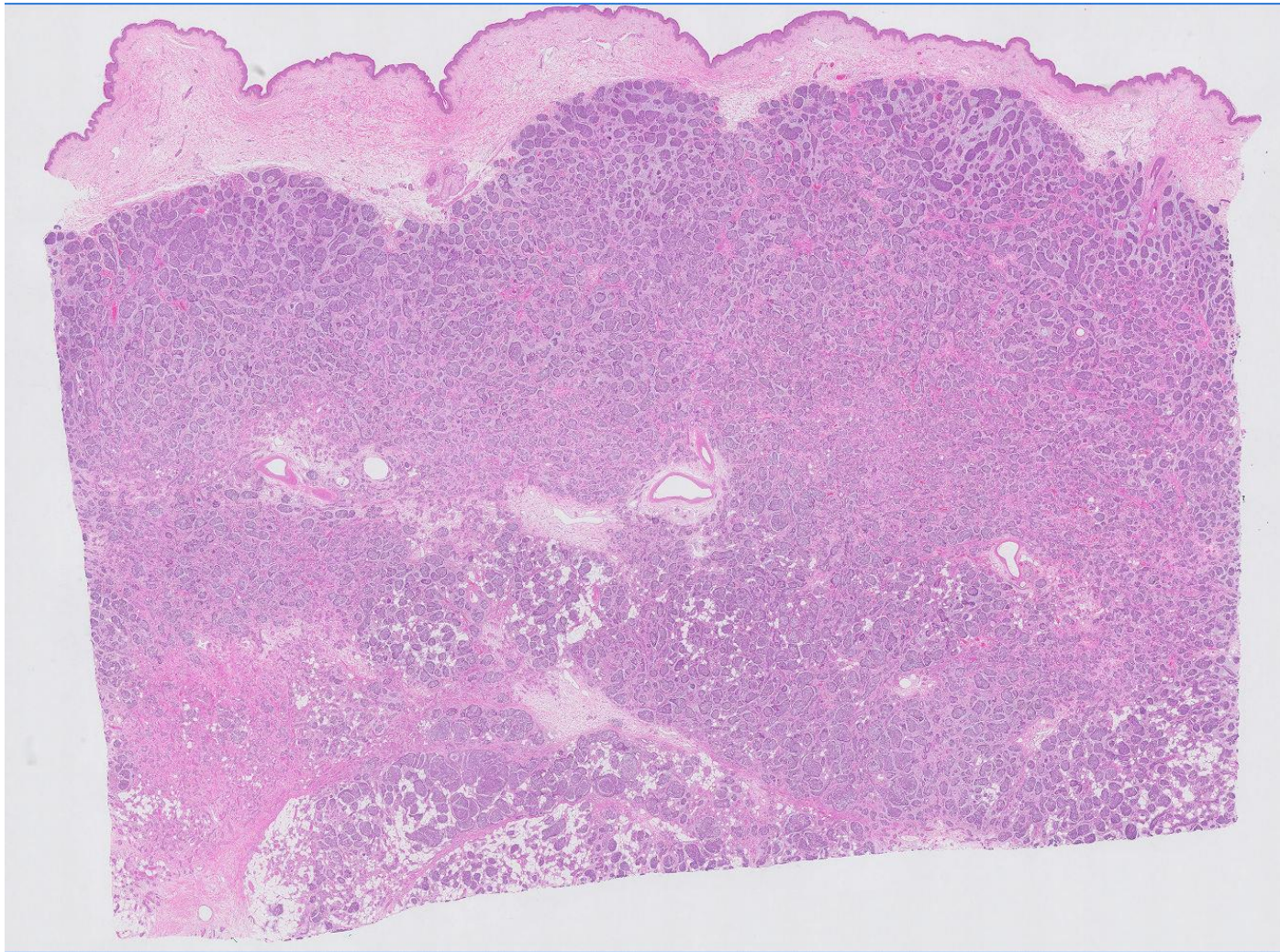


Case 30

46 year old Malay female.
Left mastectomy.

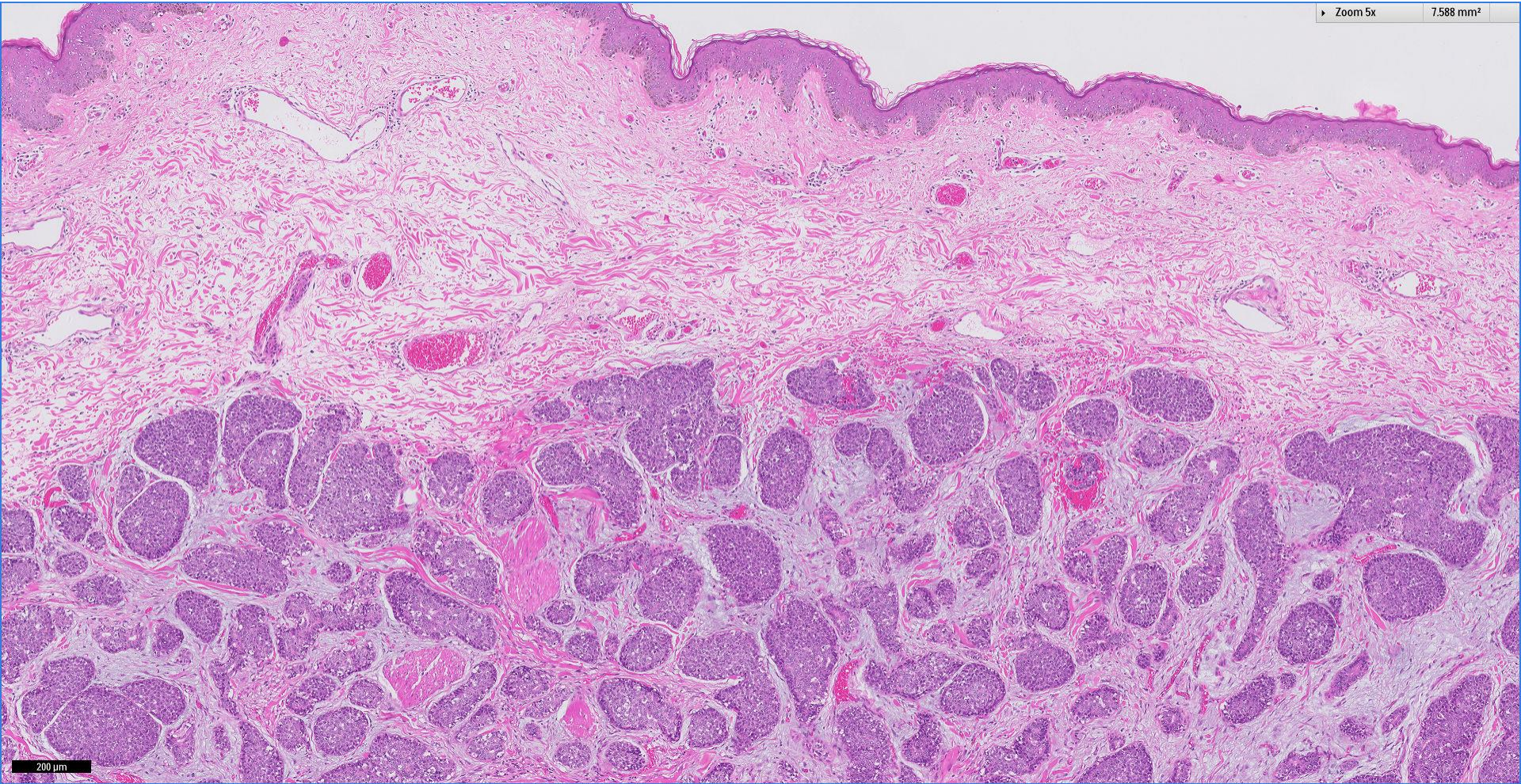
Contributed by Dr Victor Ng, Changi General Hospital

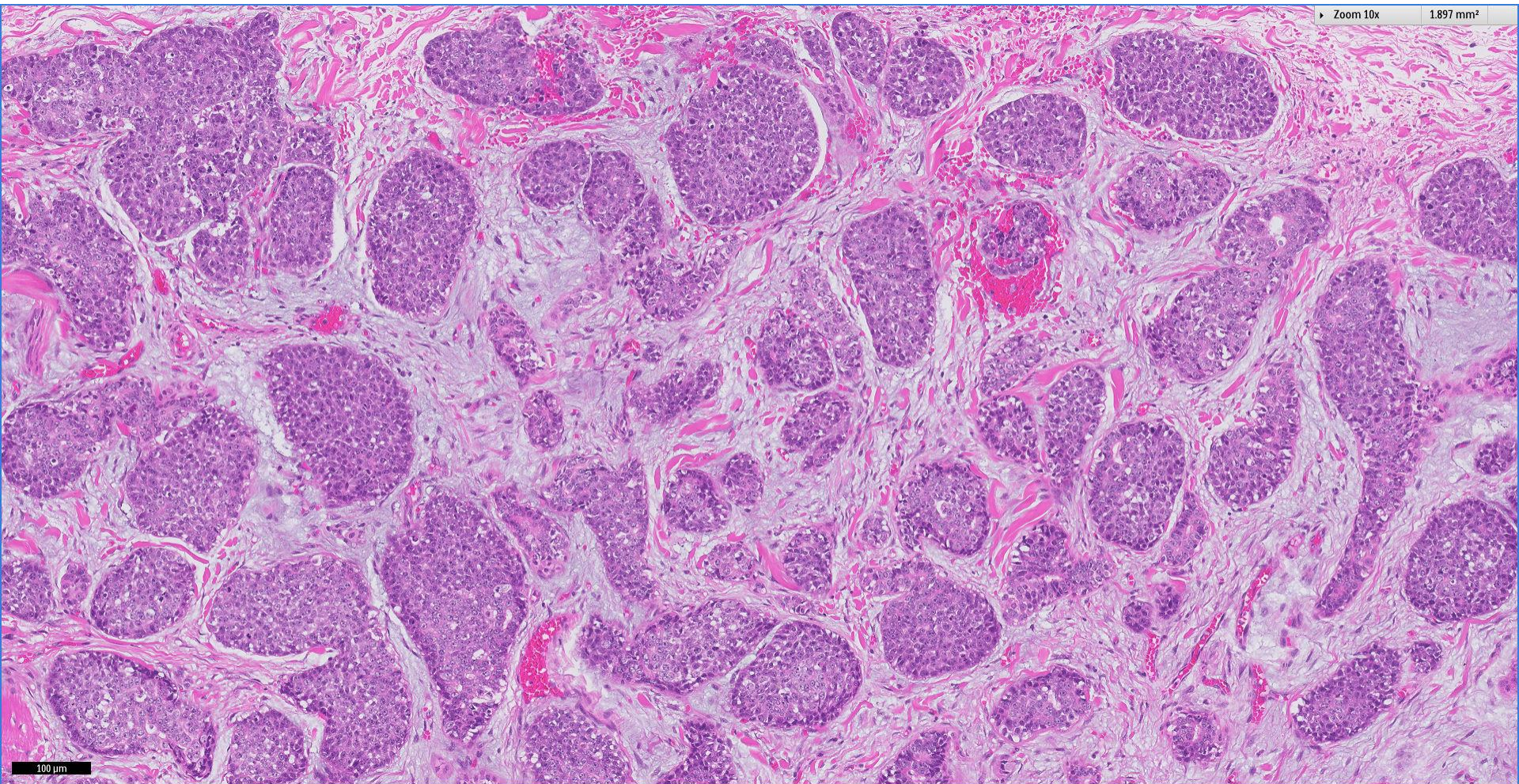




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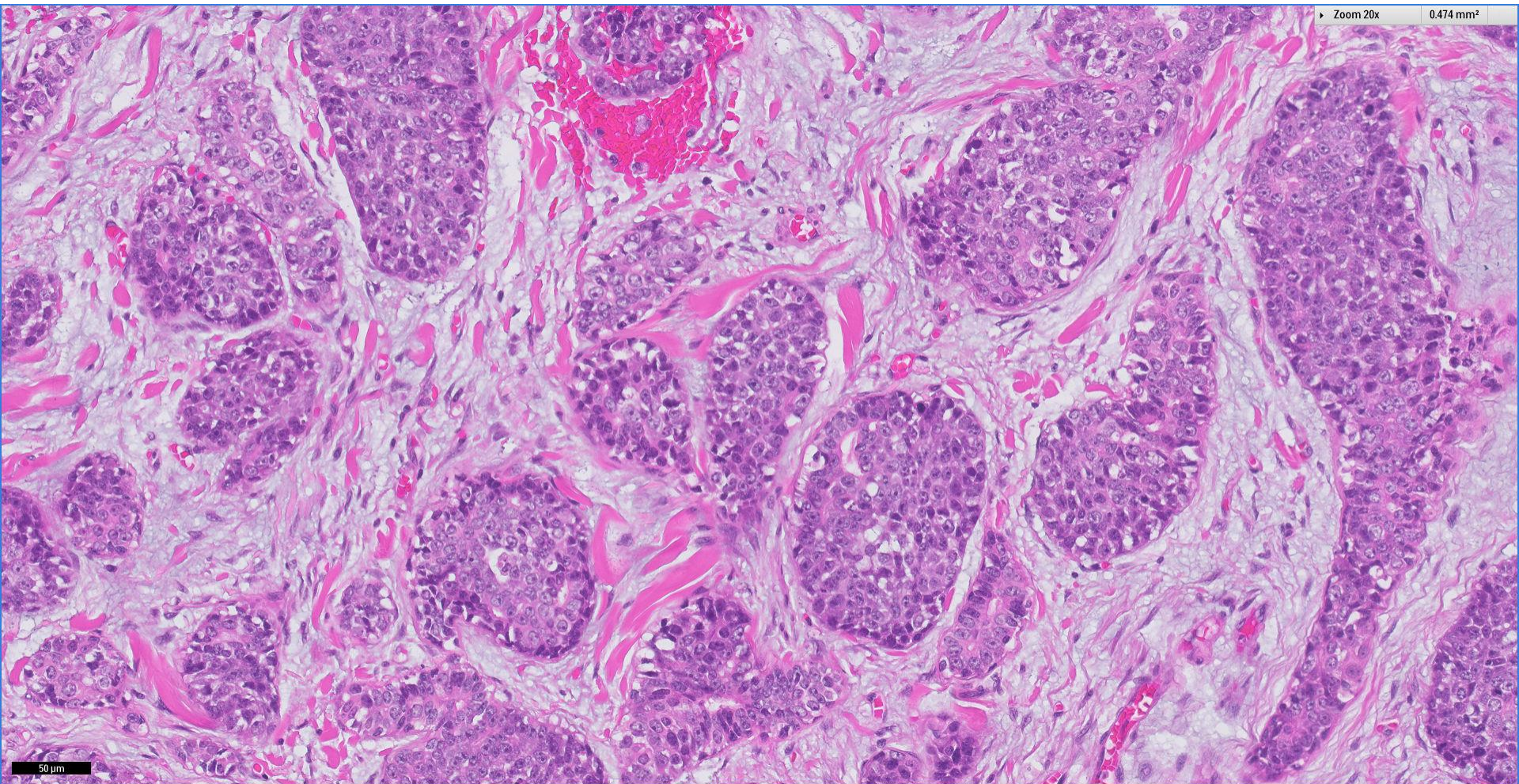


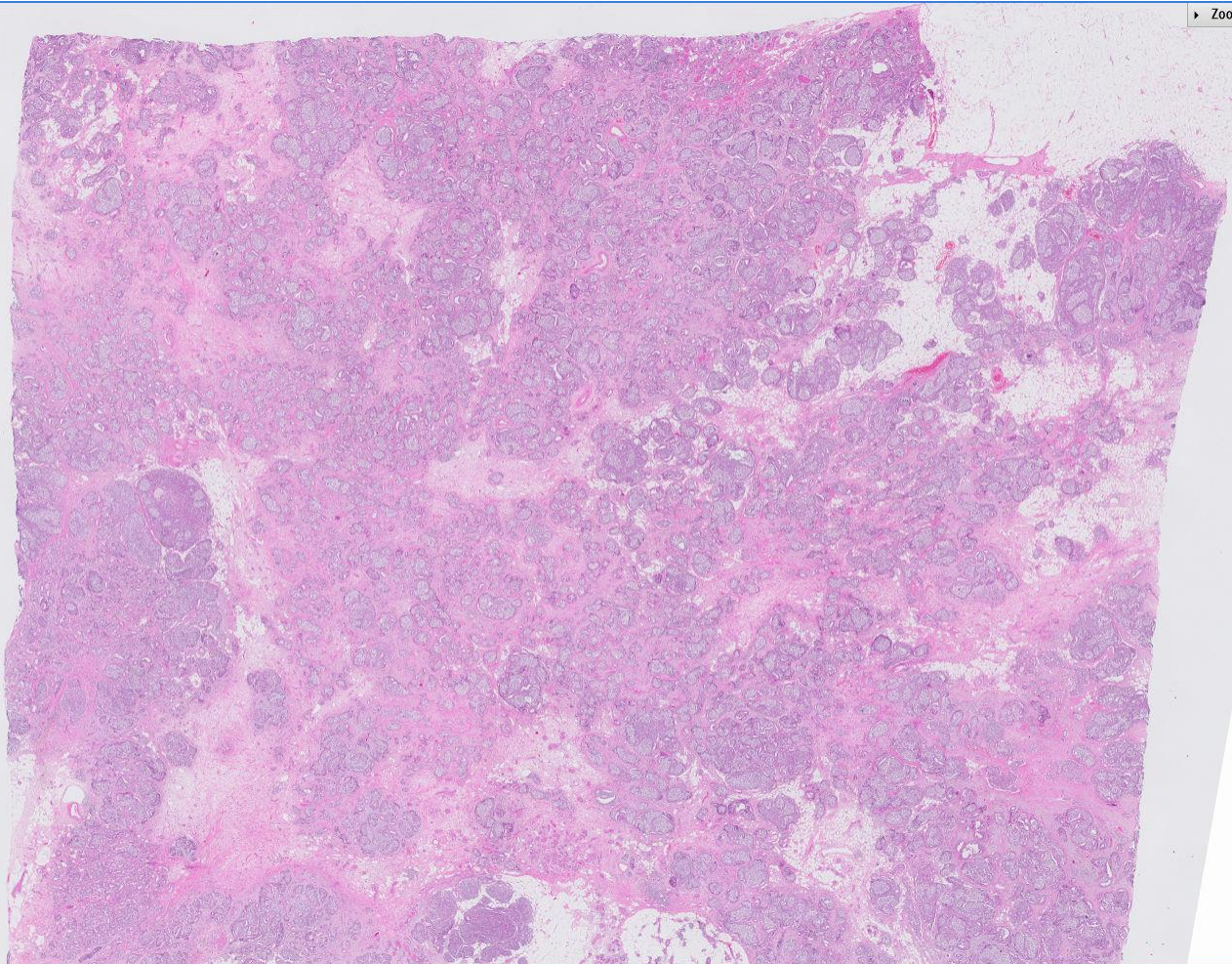




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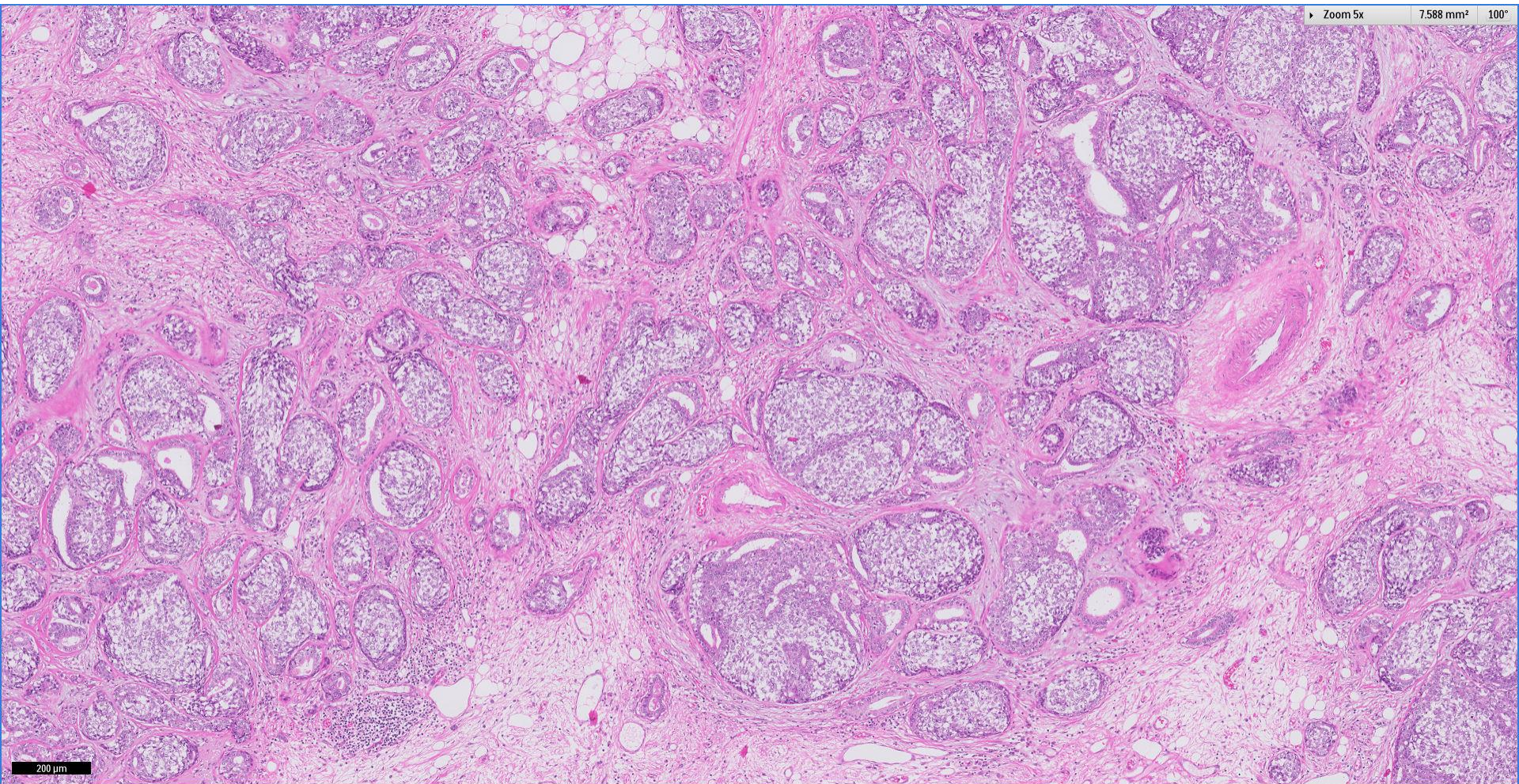


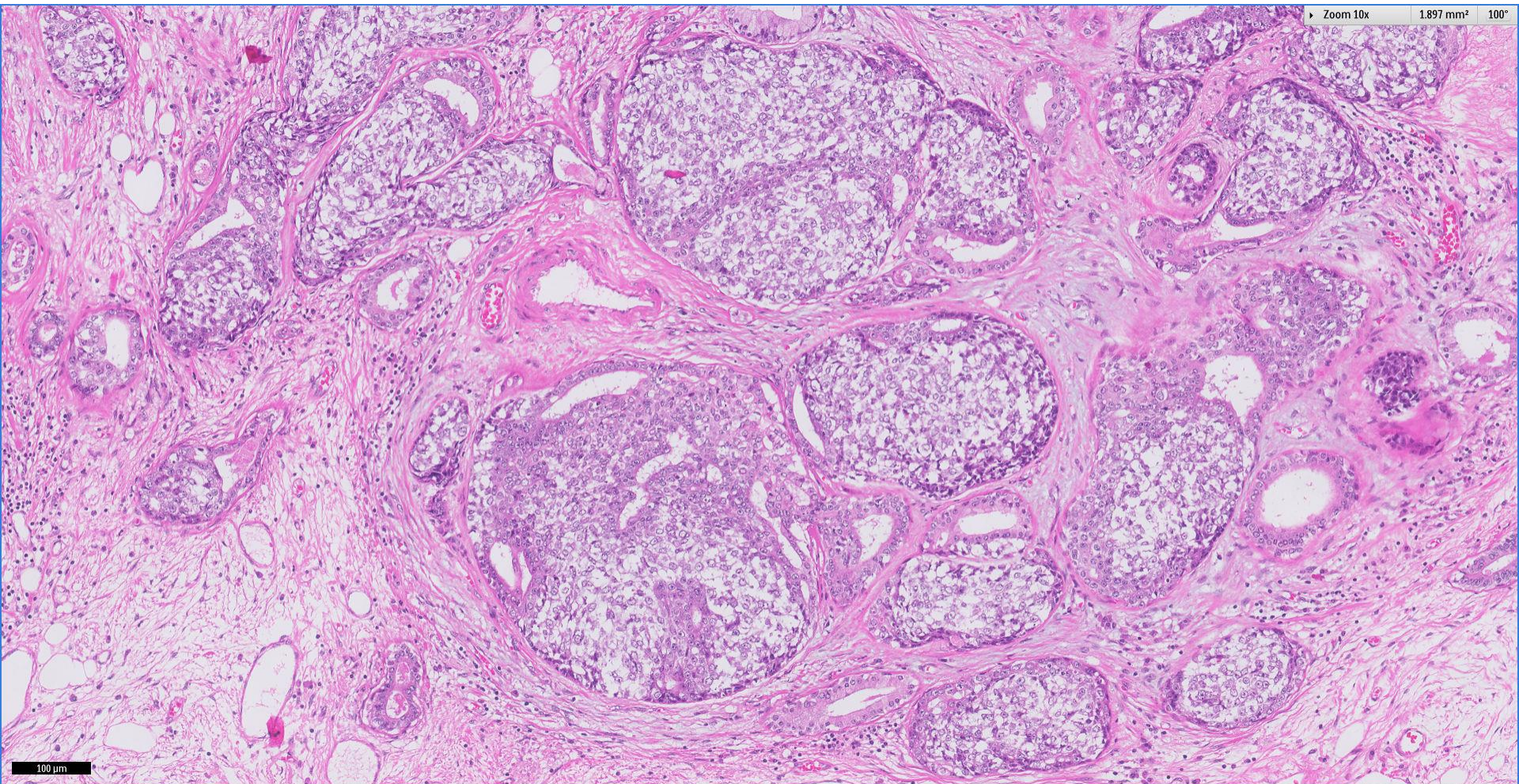
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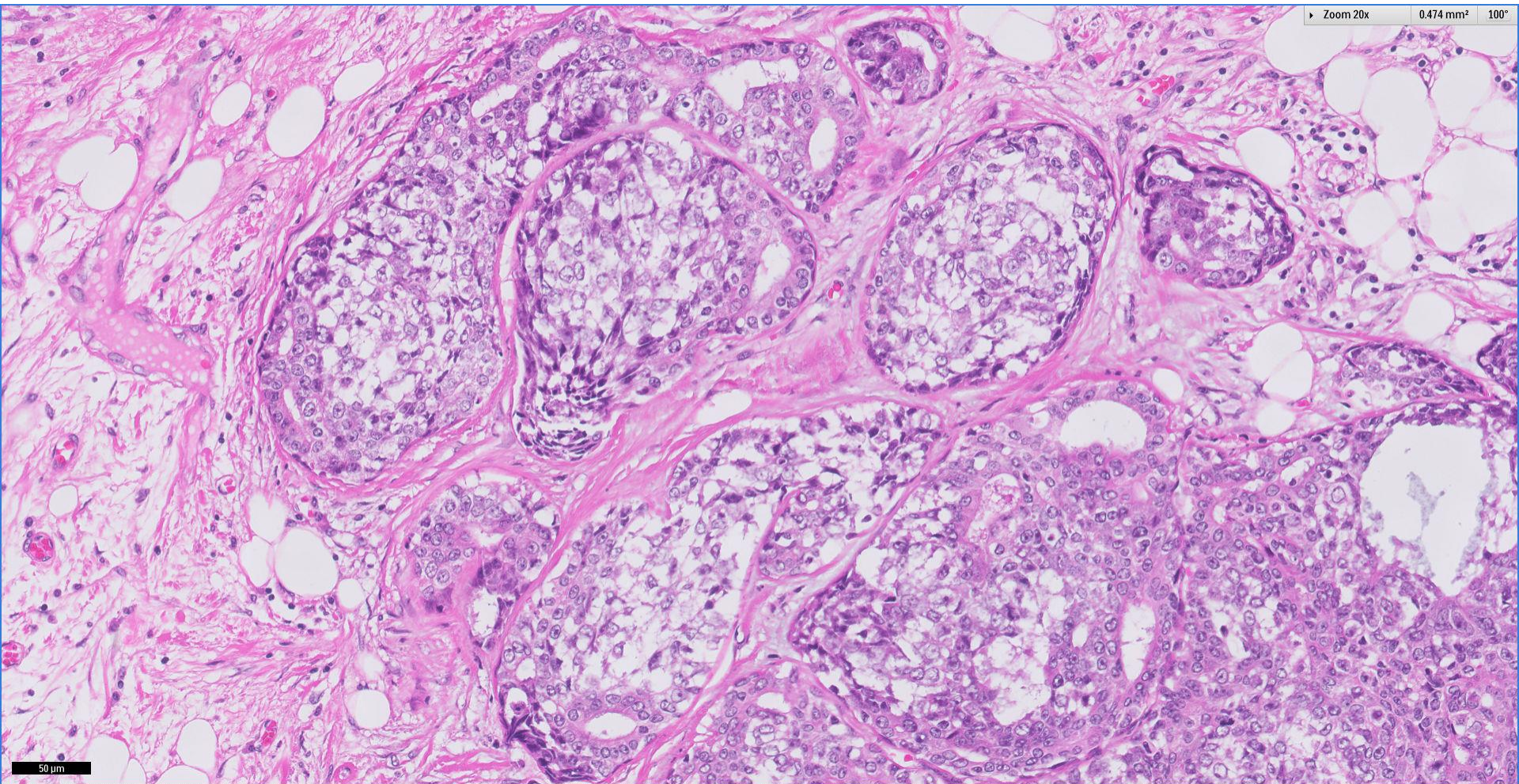


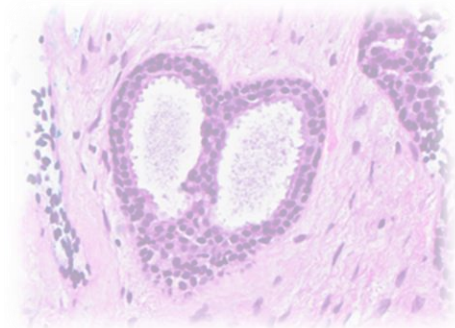
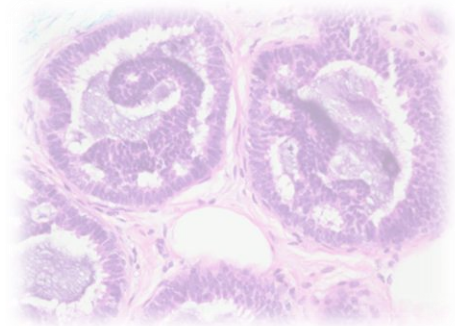
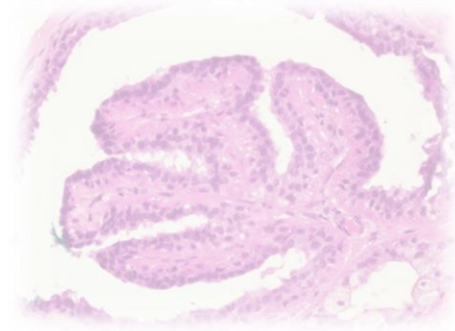
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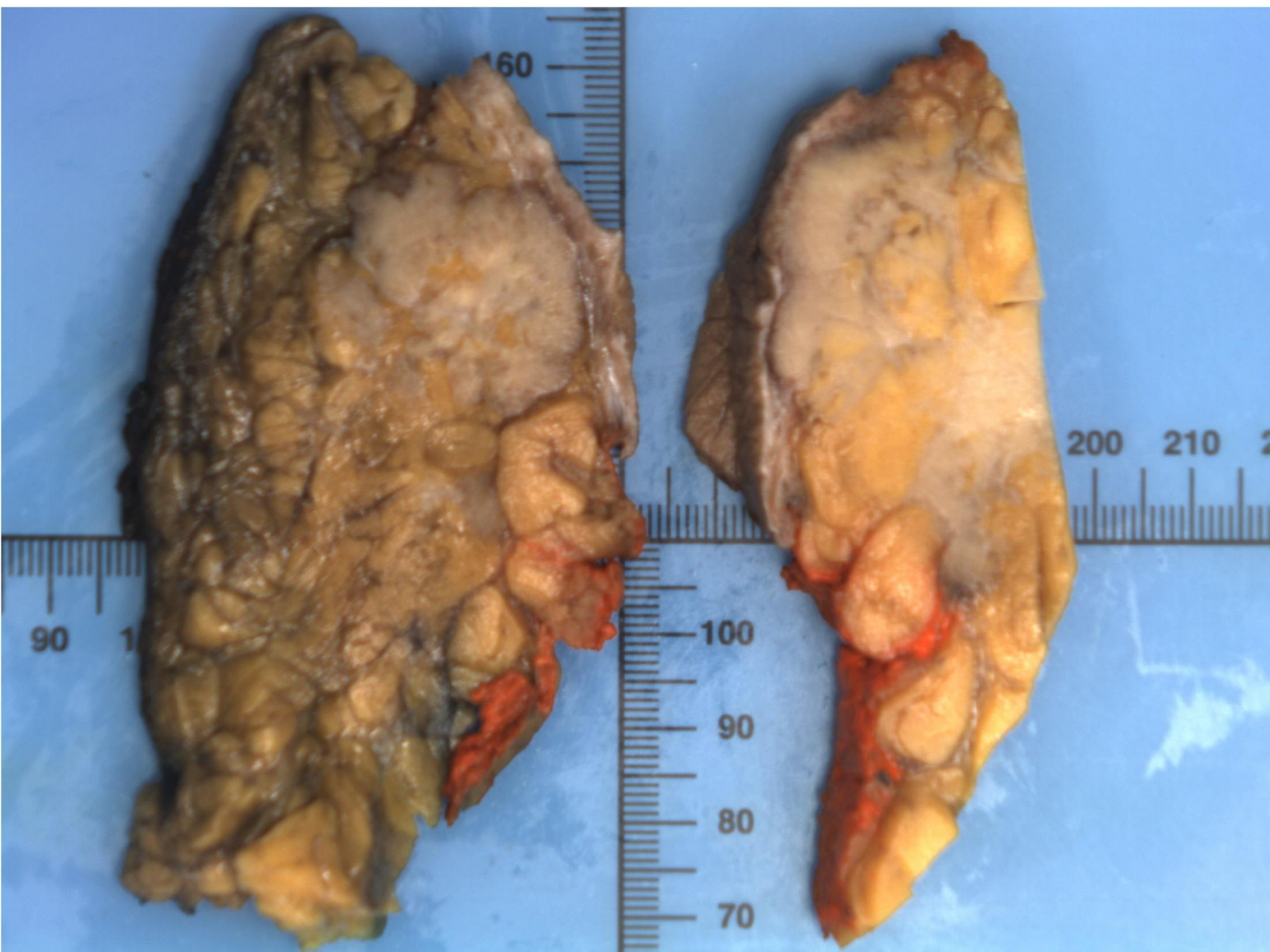


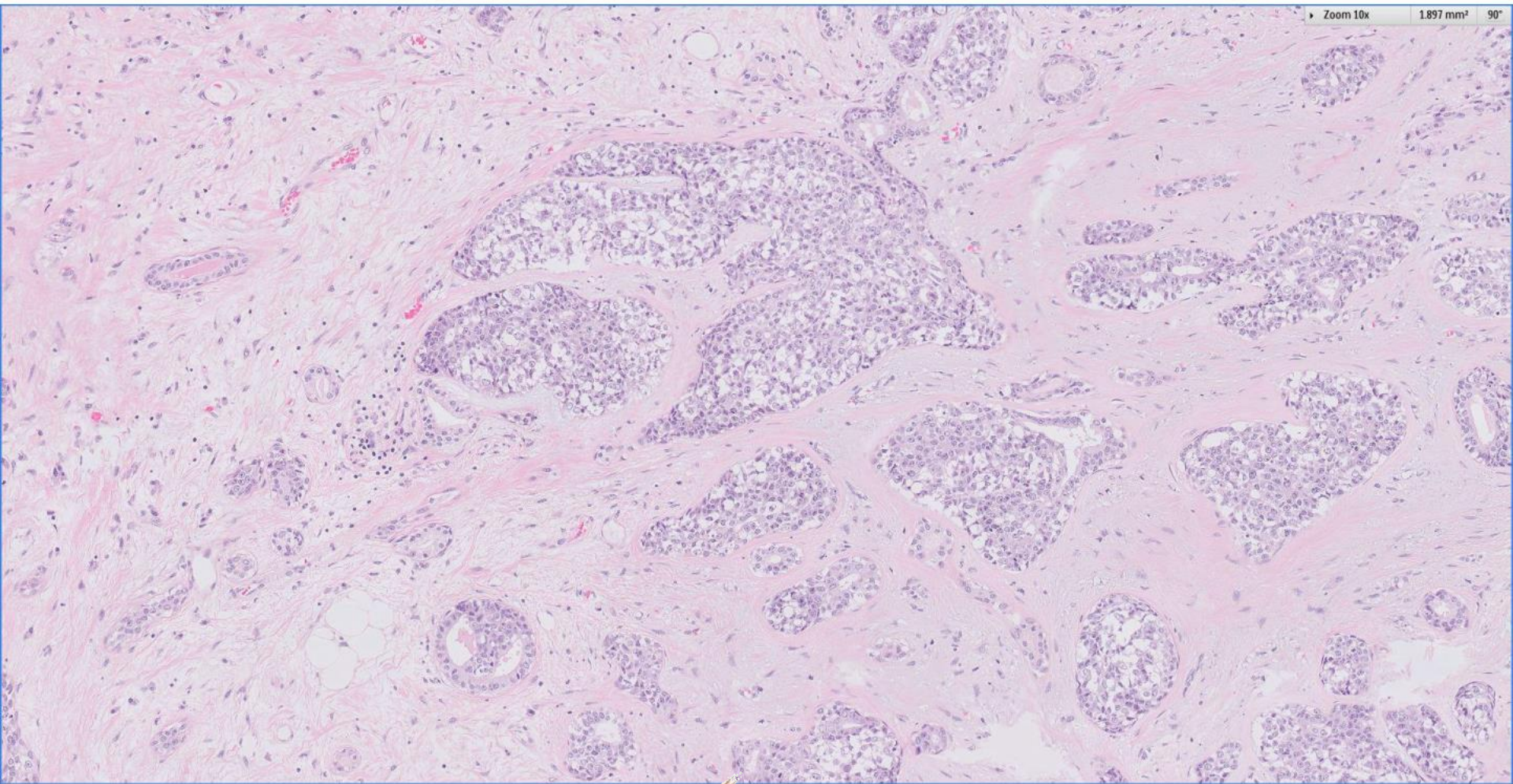






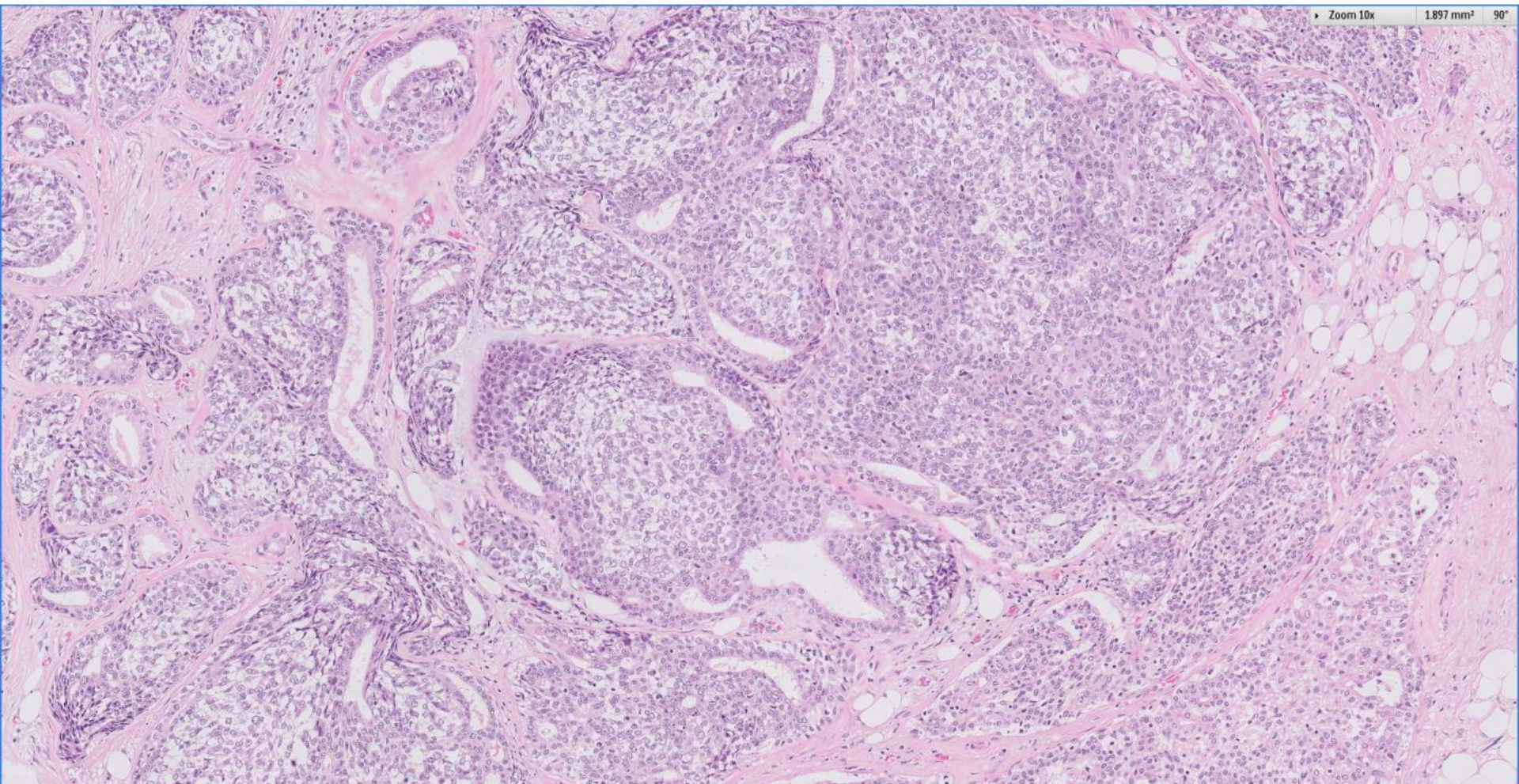
Additional pictures





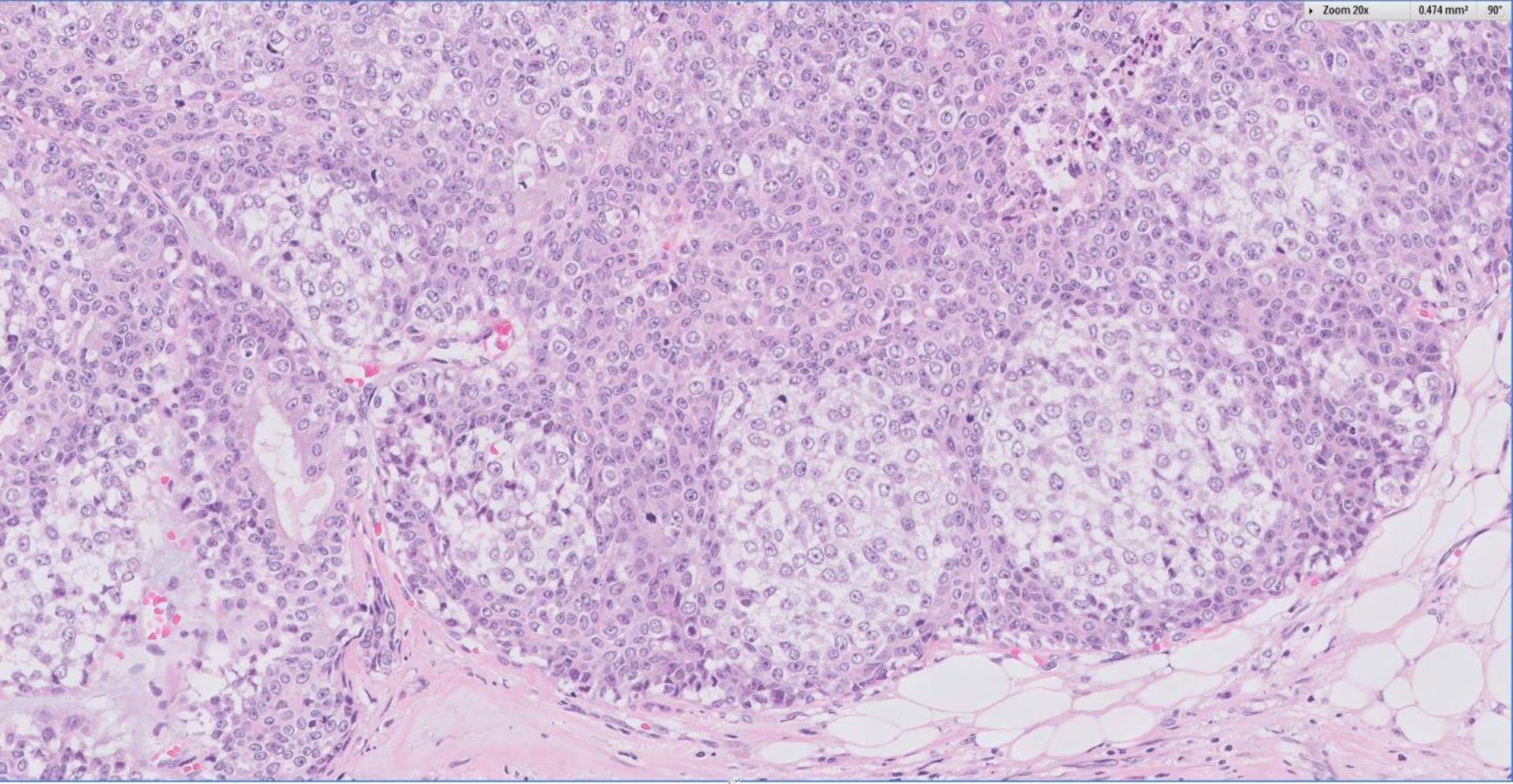
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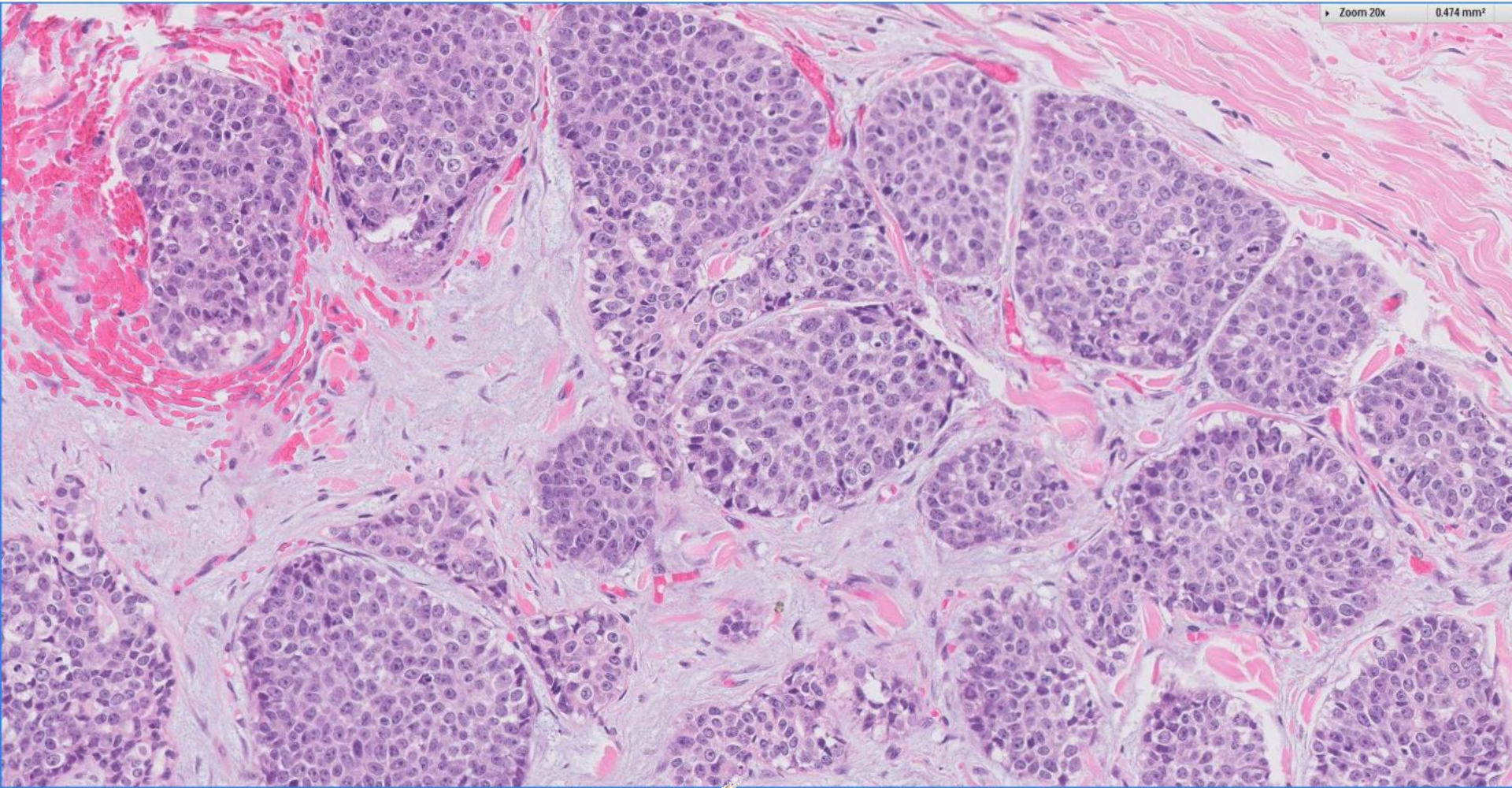
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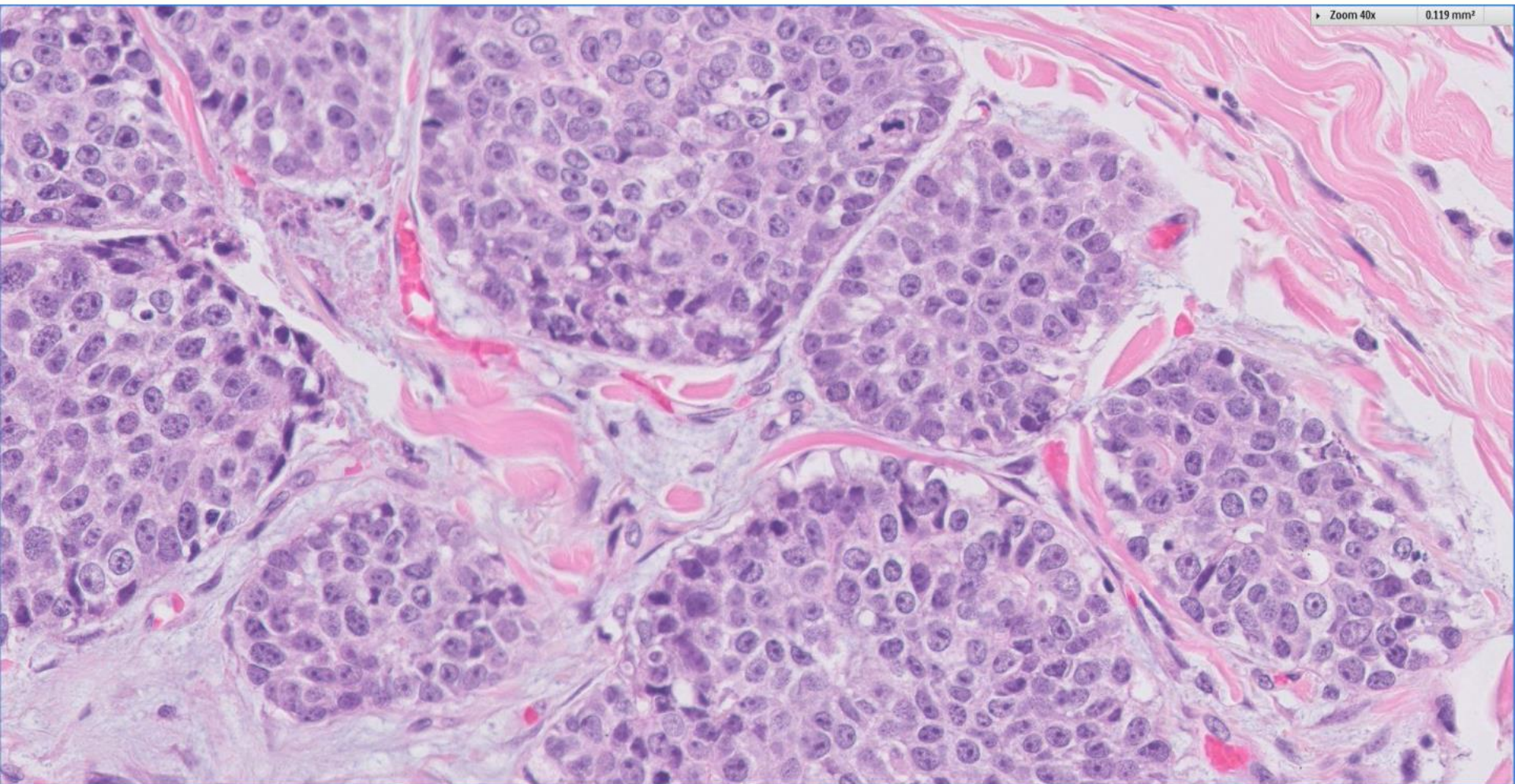
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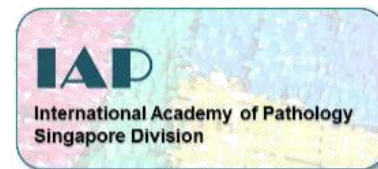


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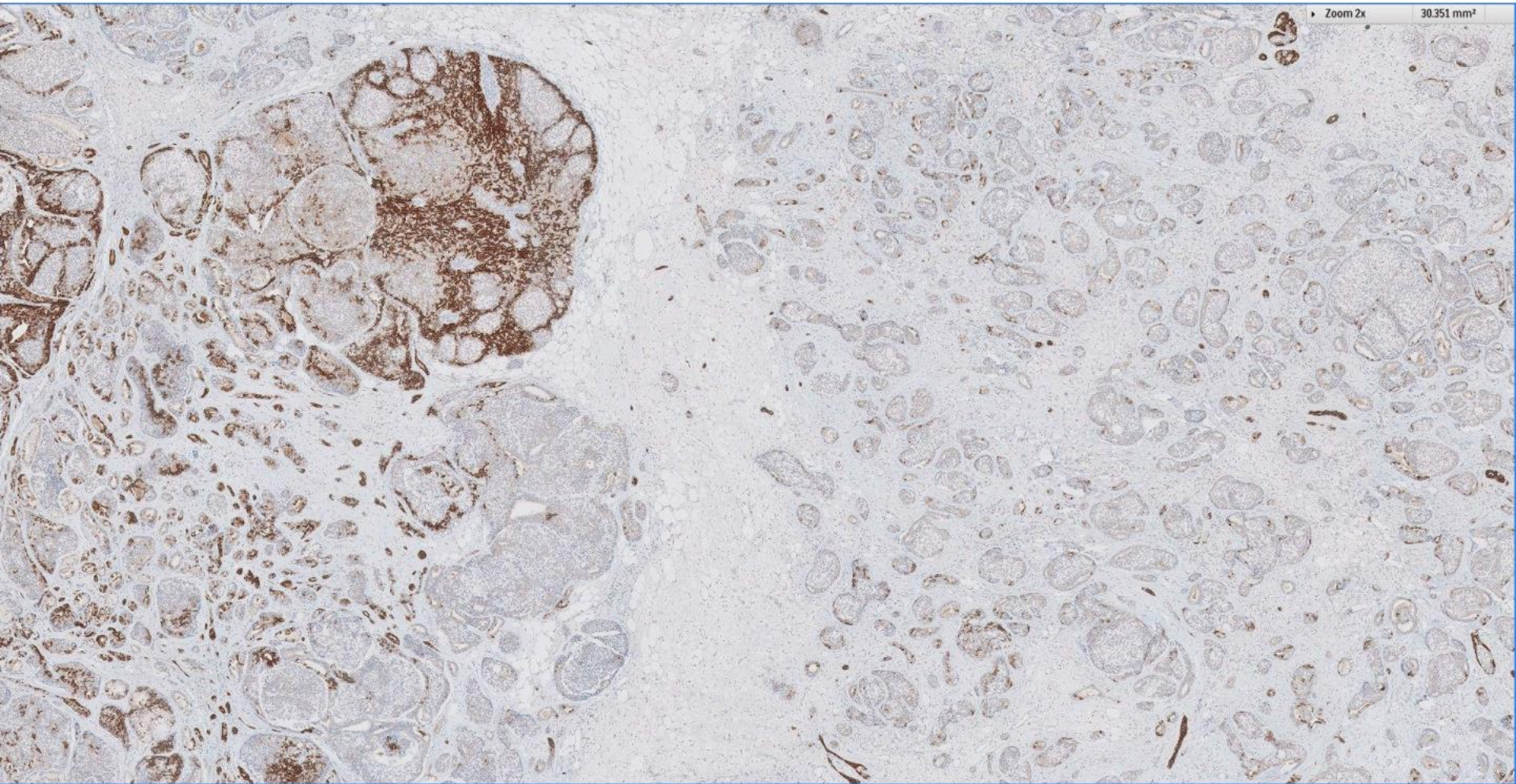




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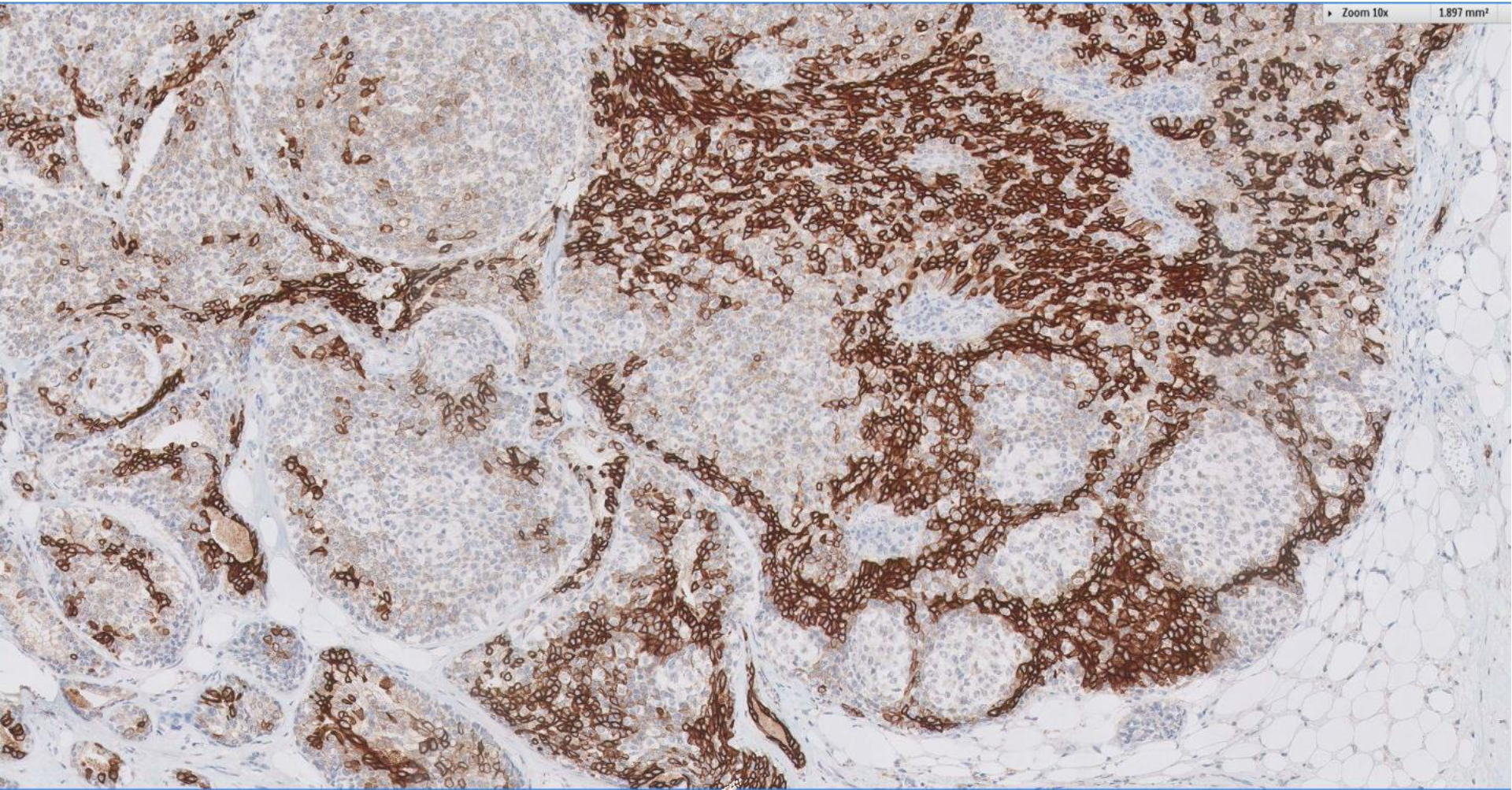
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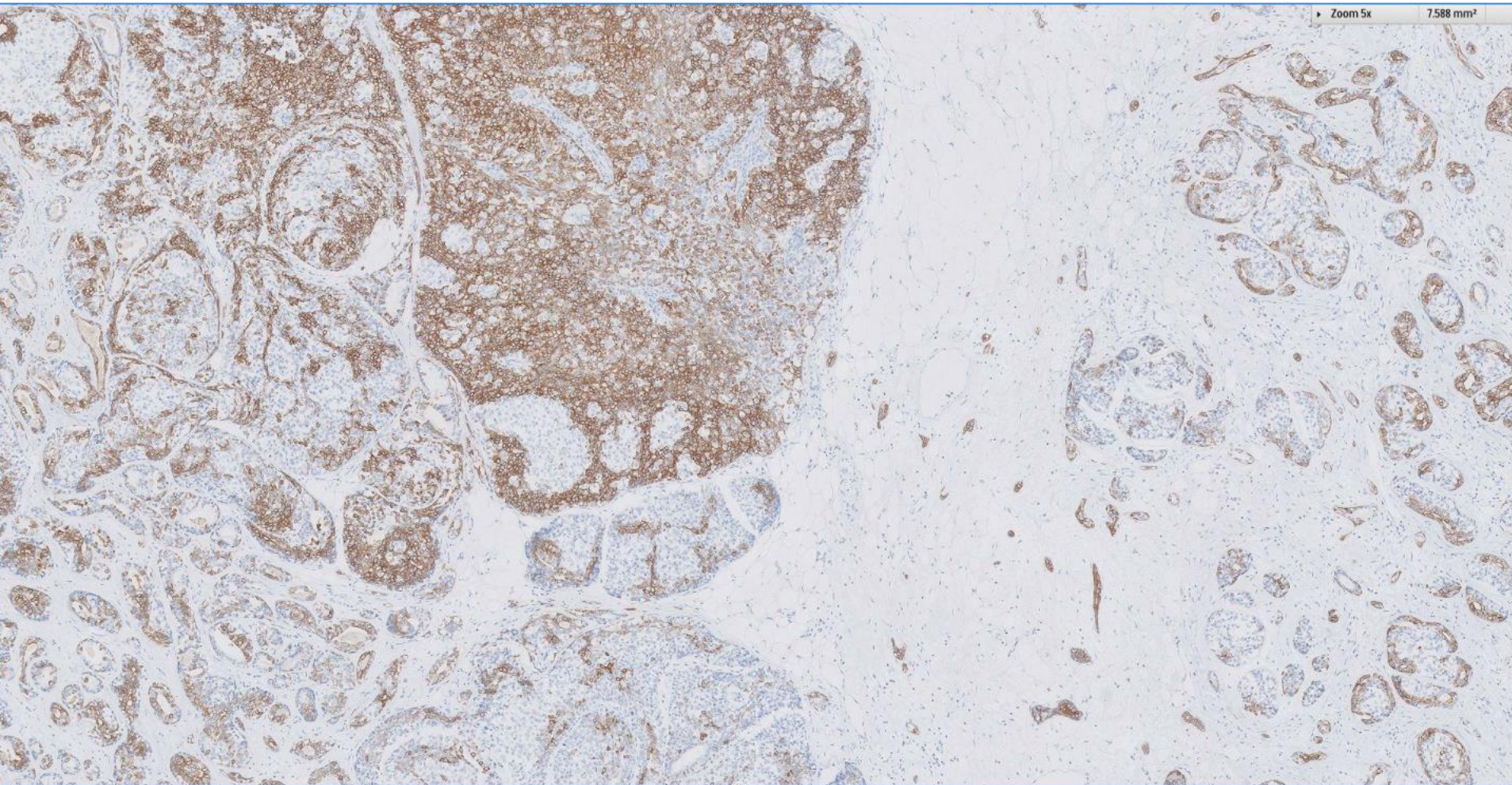
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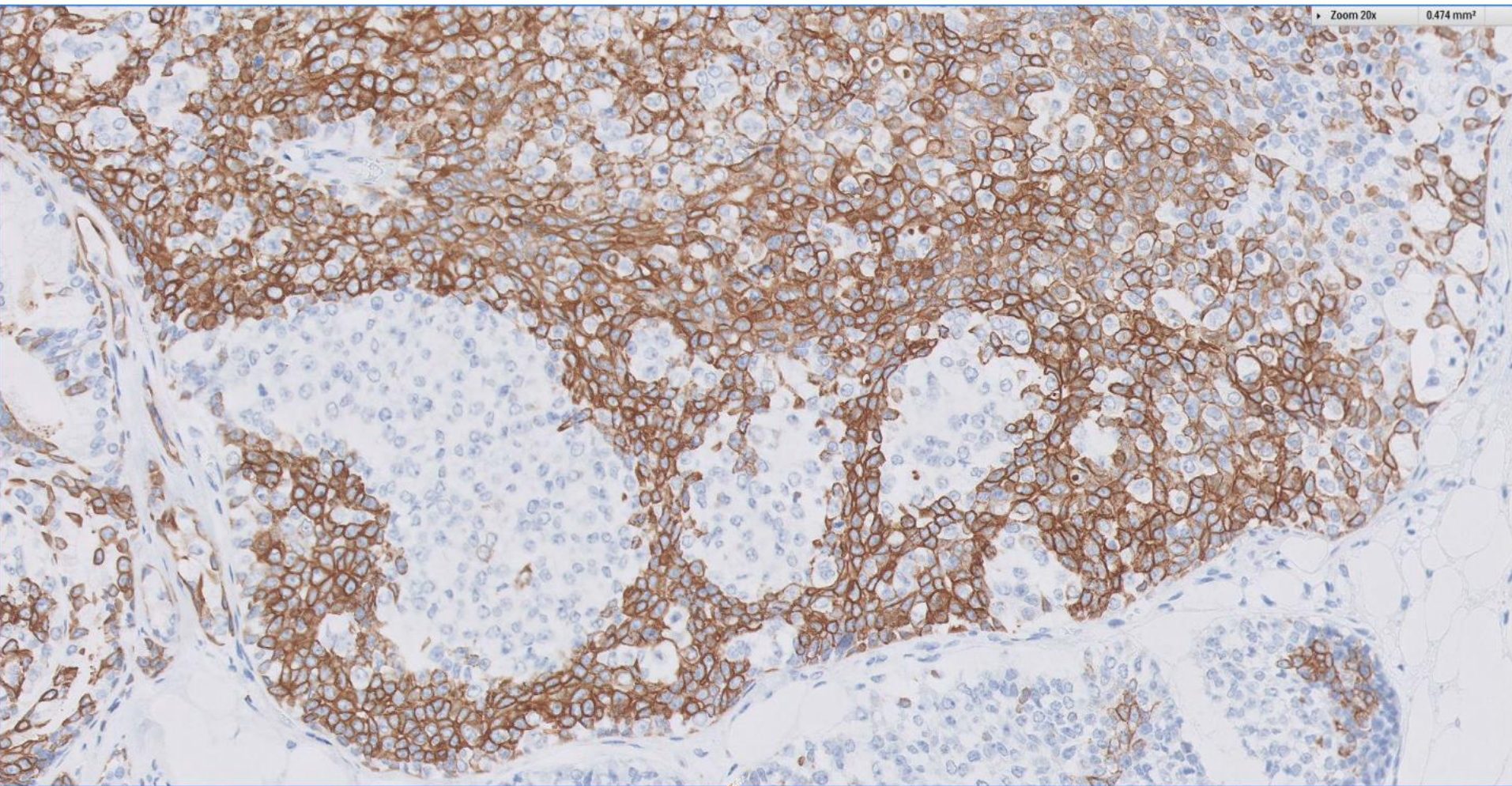
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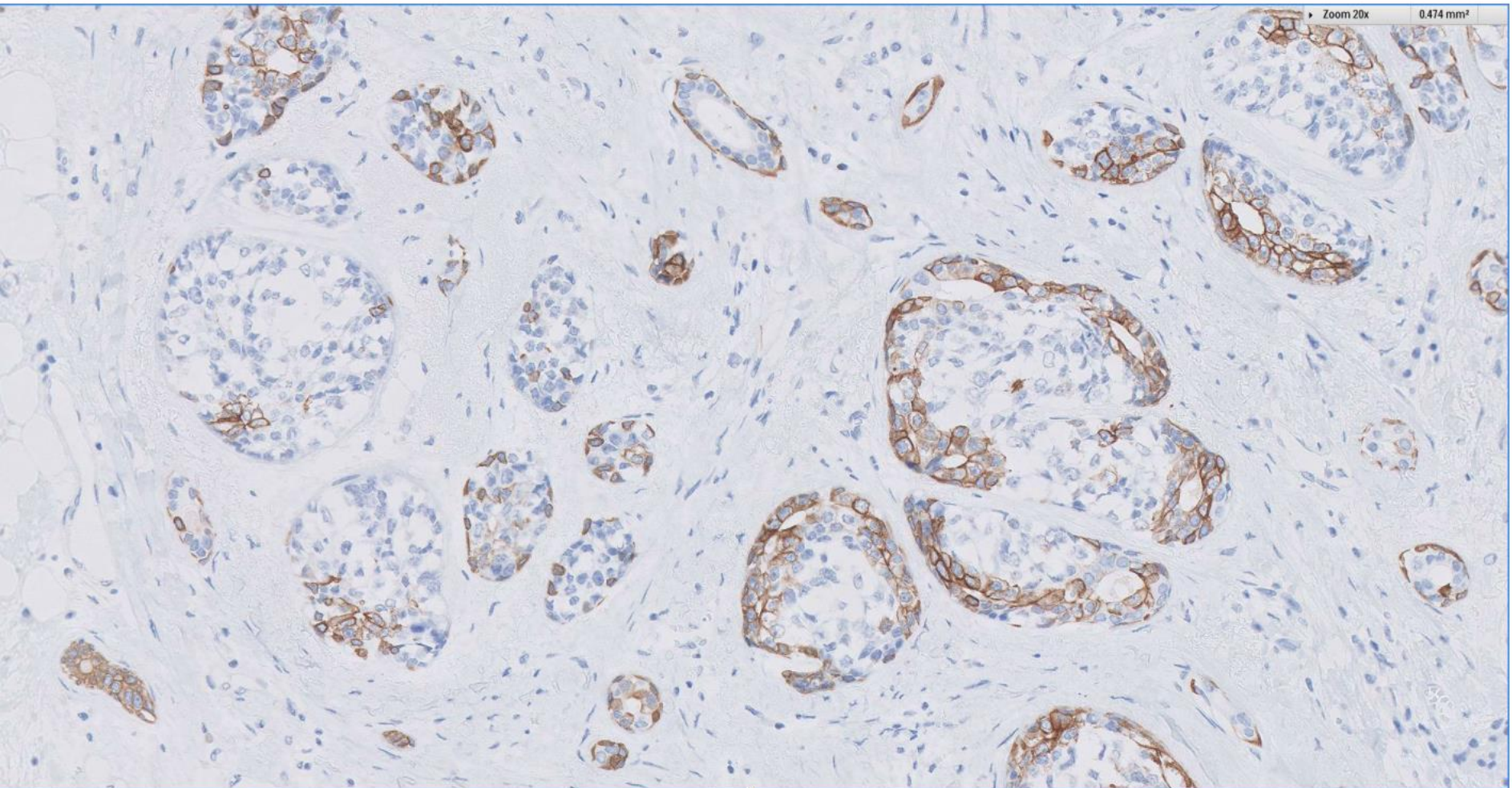
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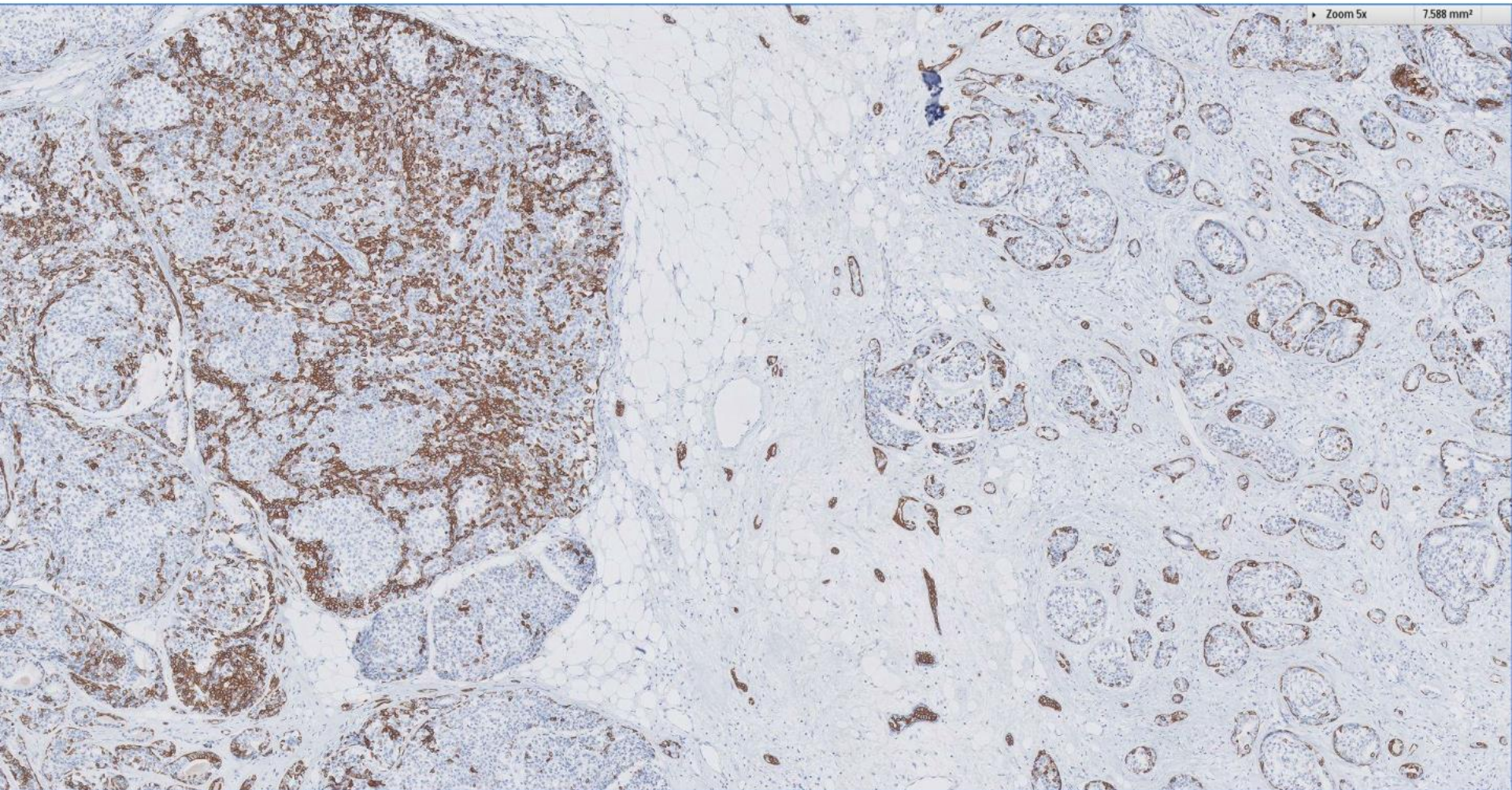
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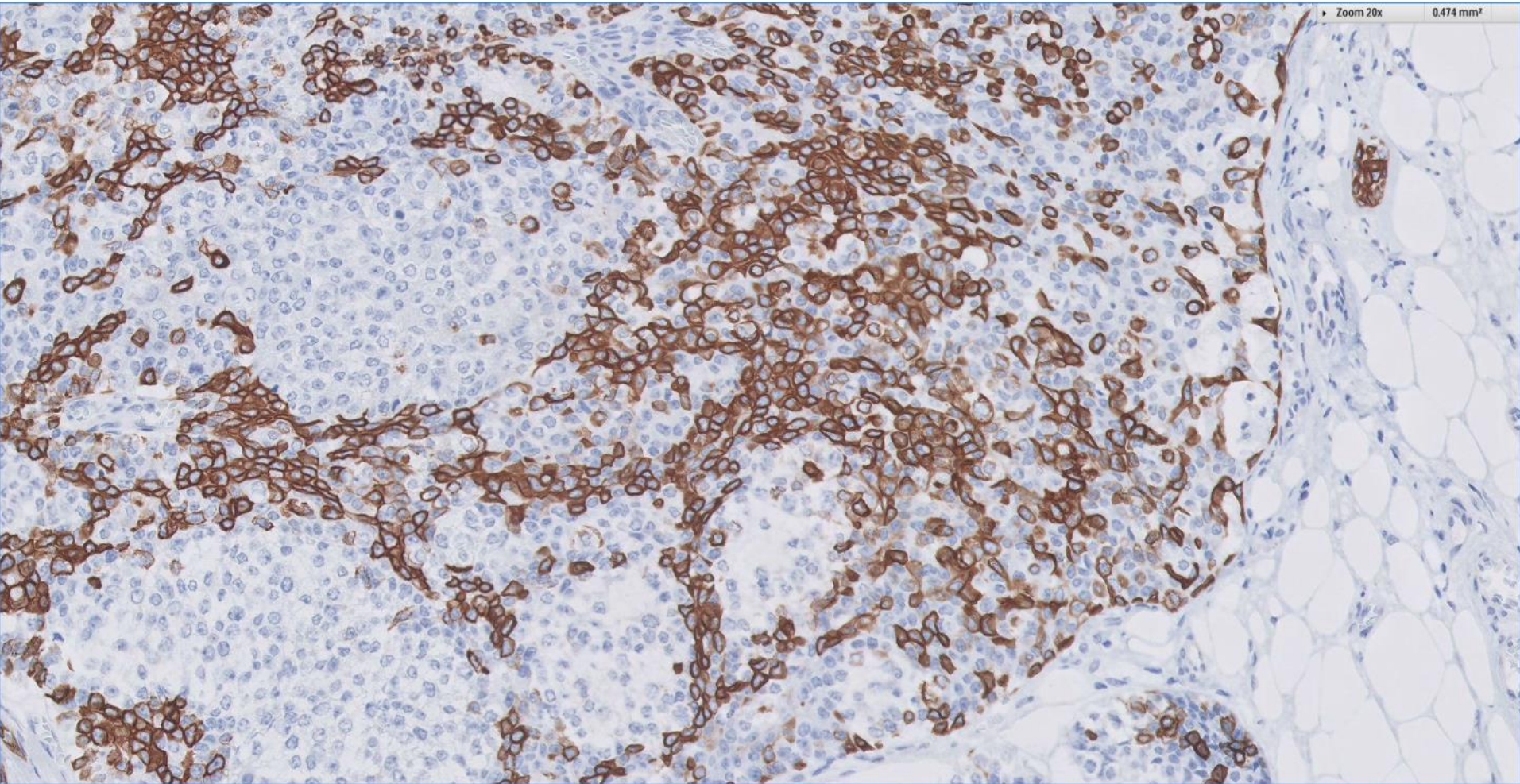
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CK14



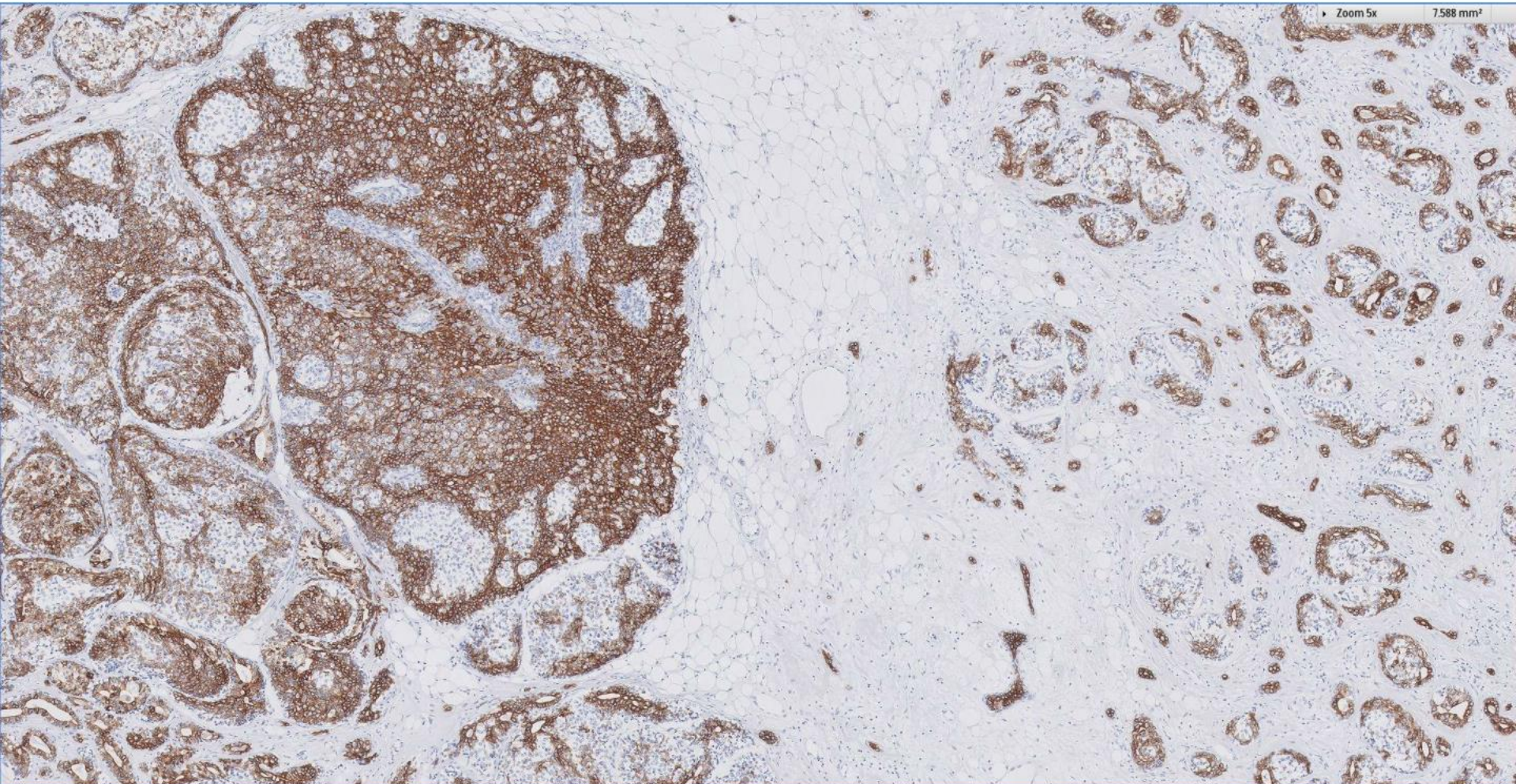
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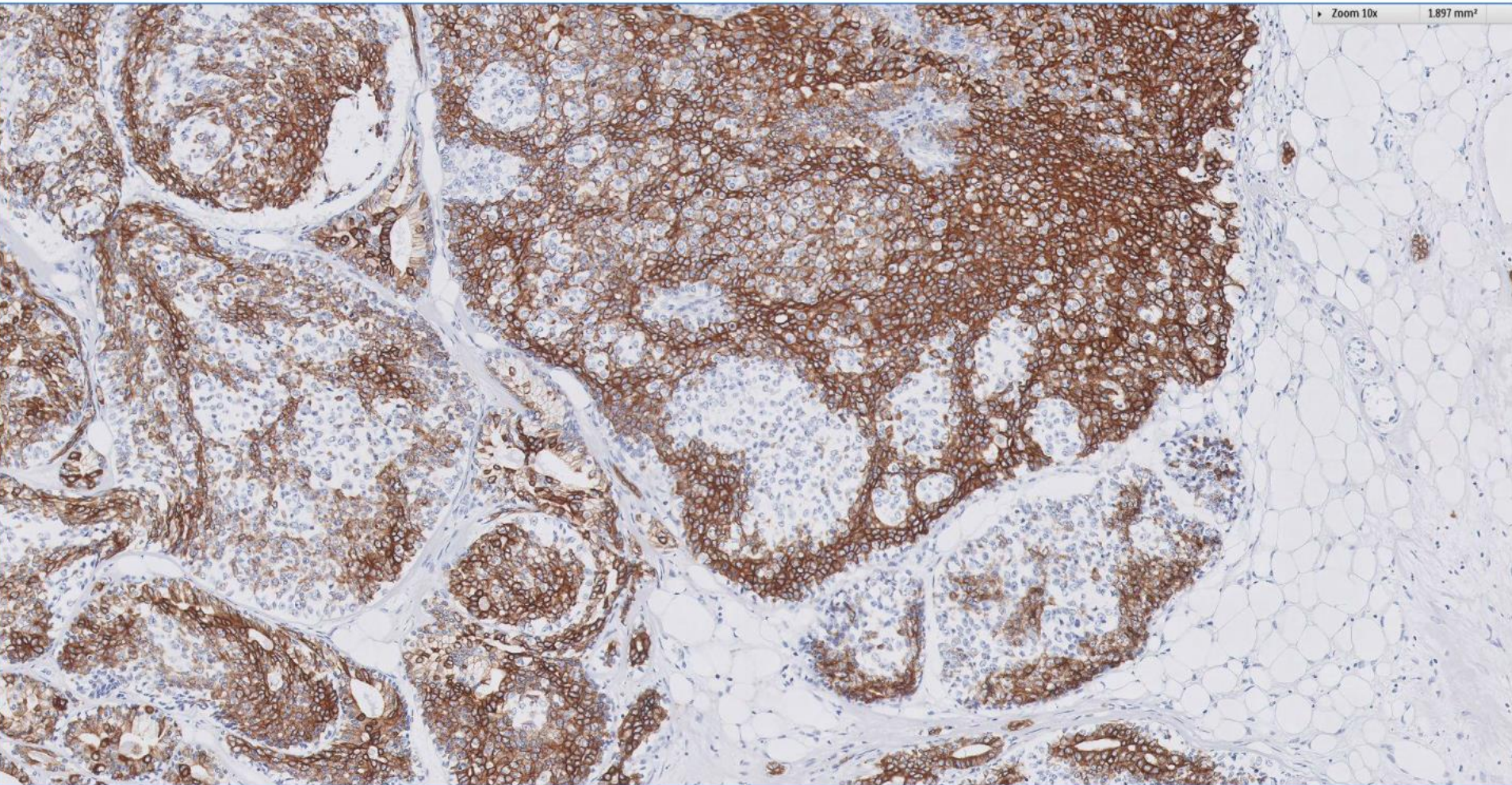
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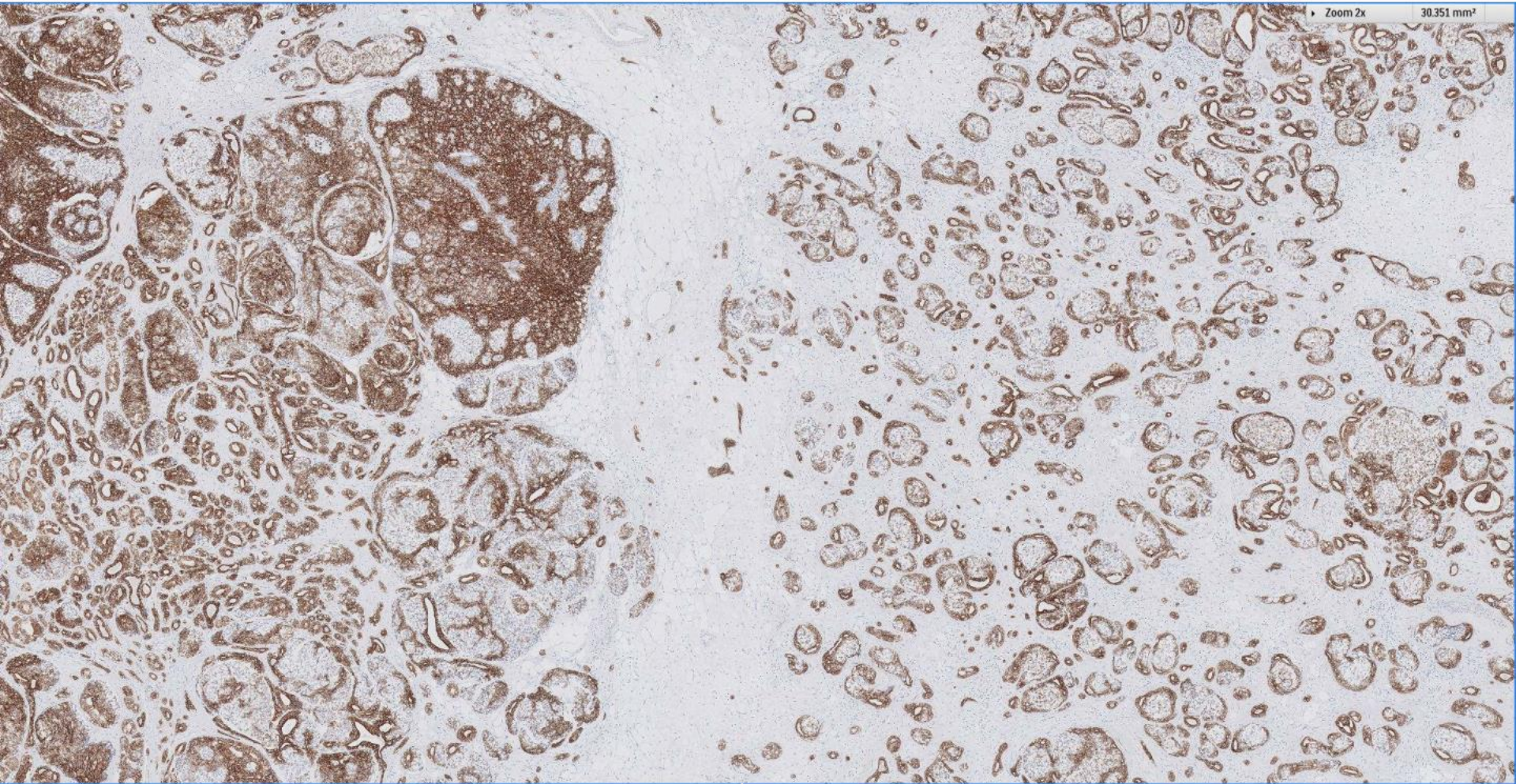
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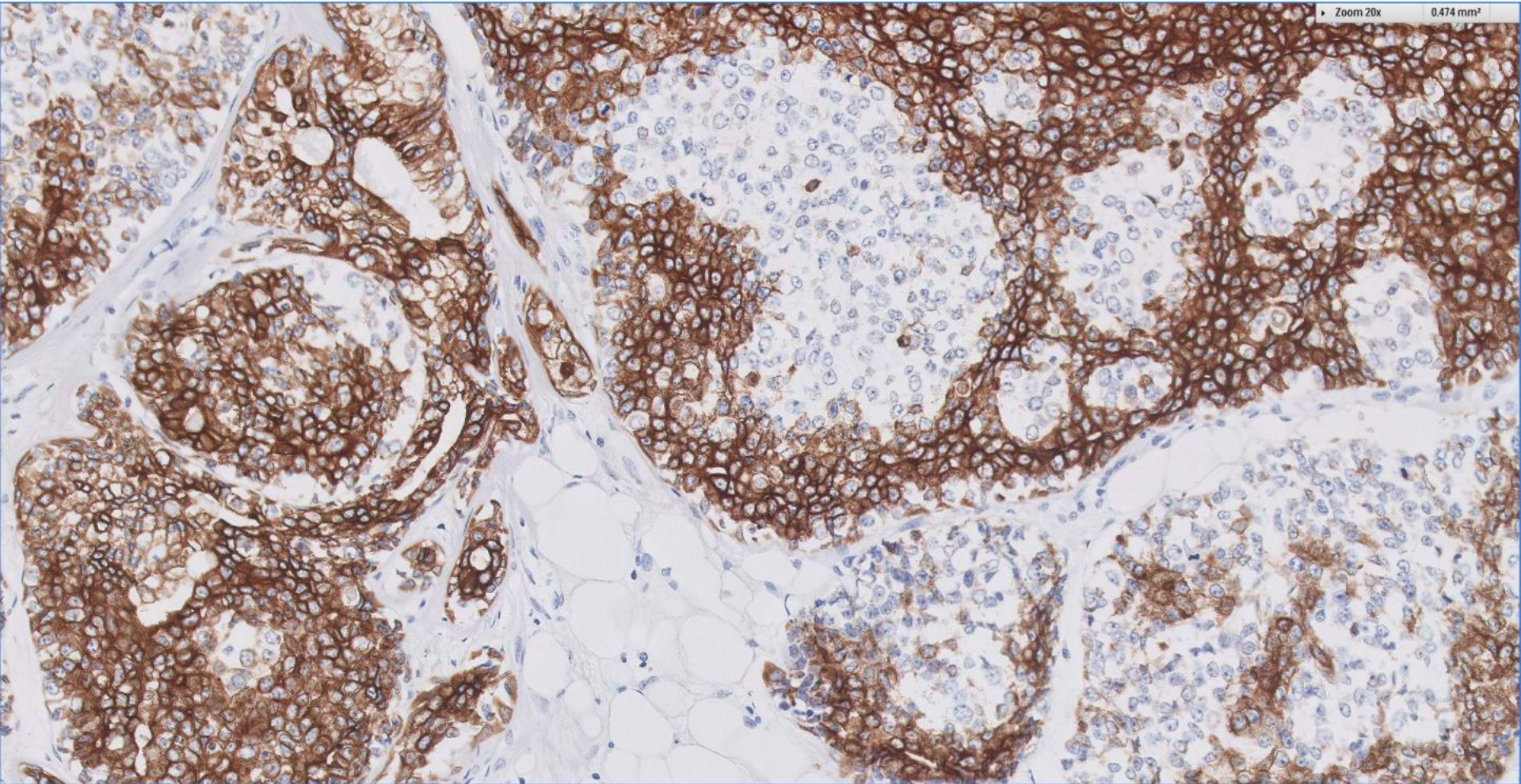
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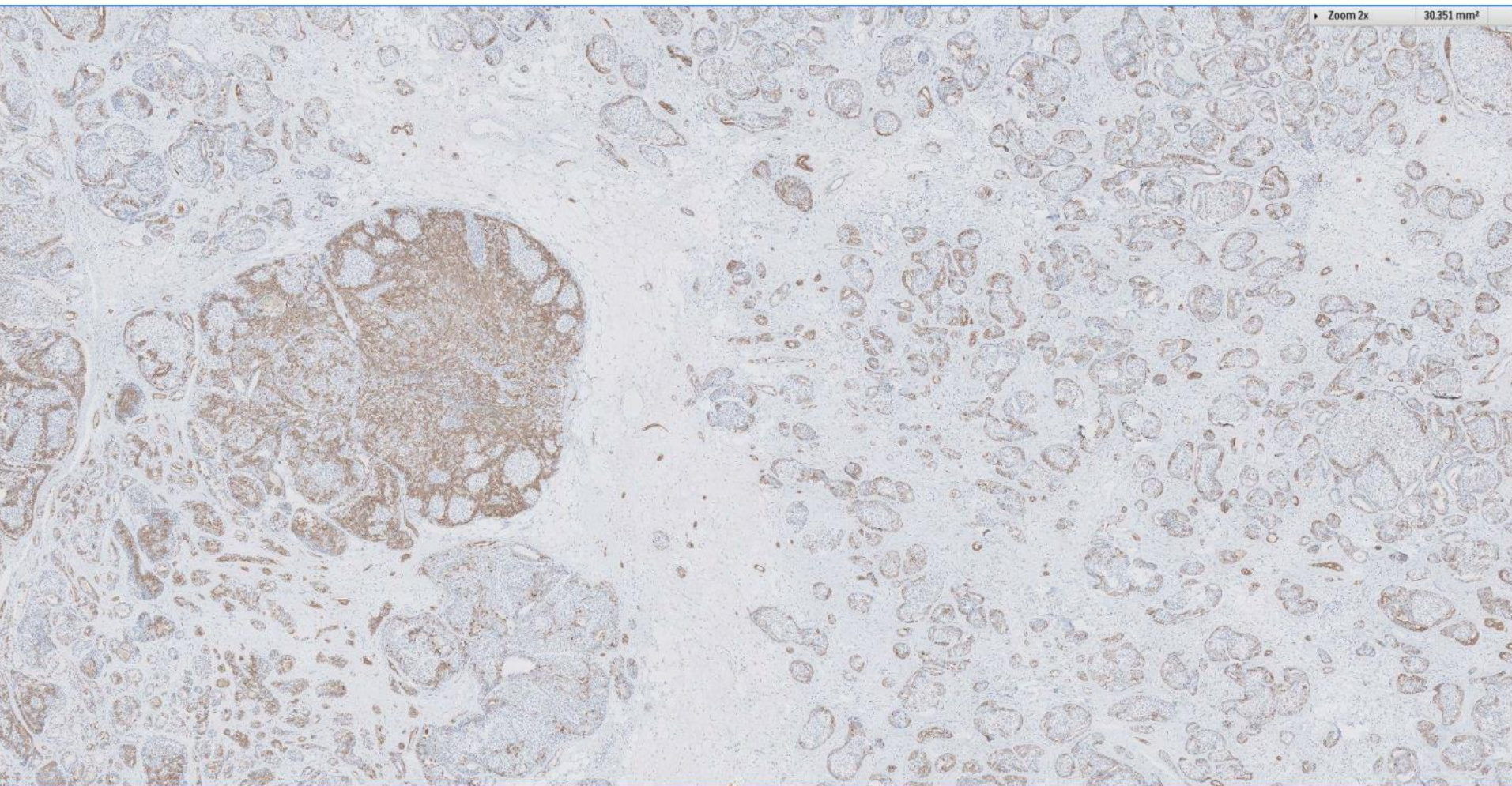
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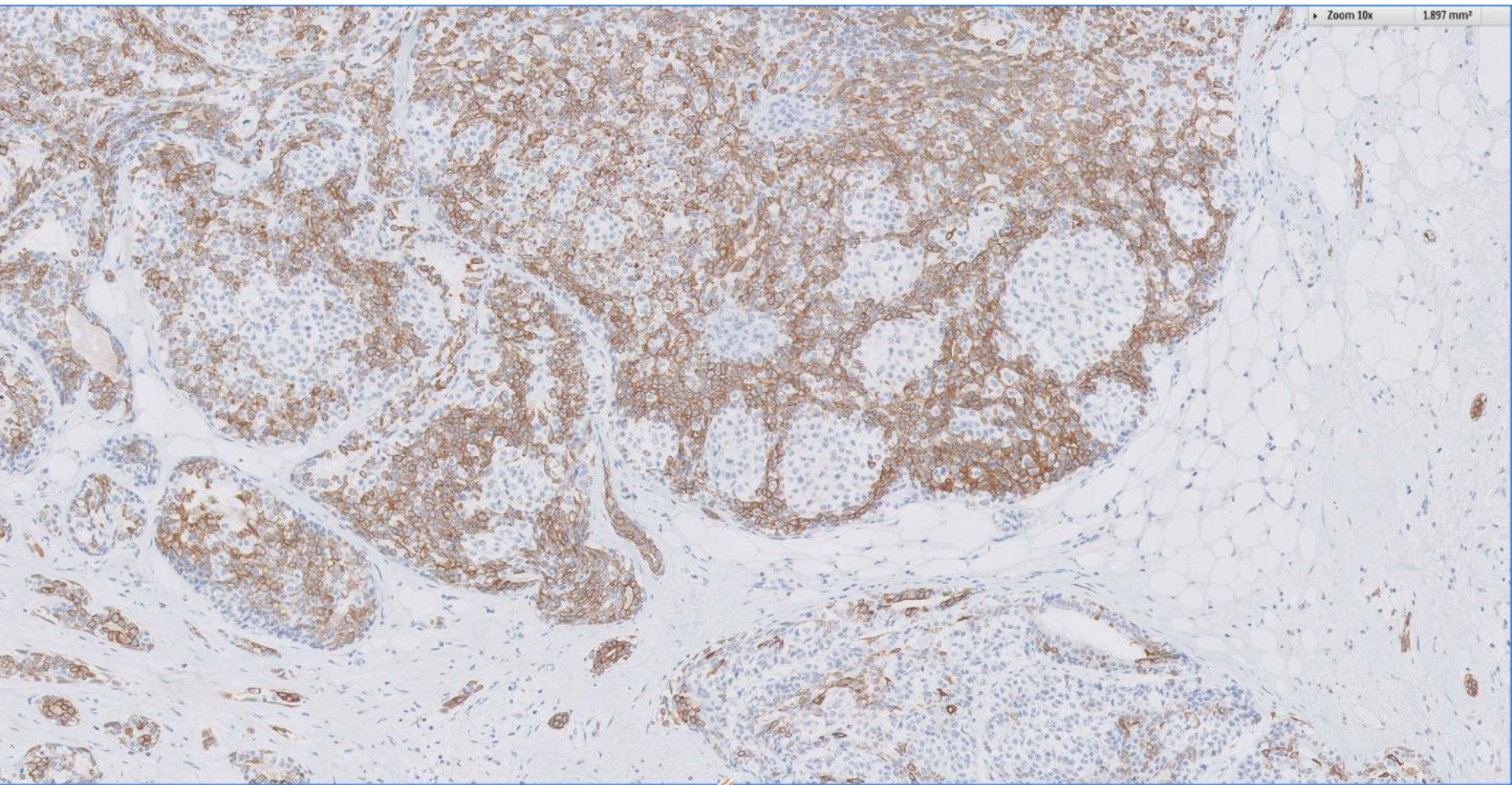
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34βE12



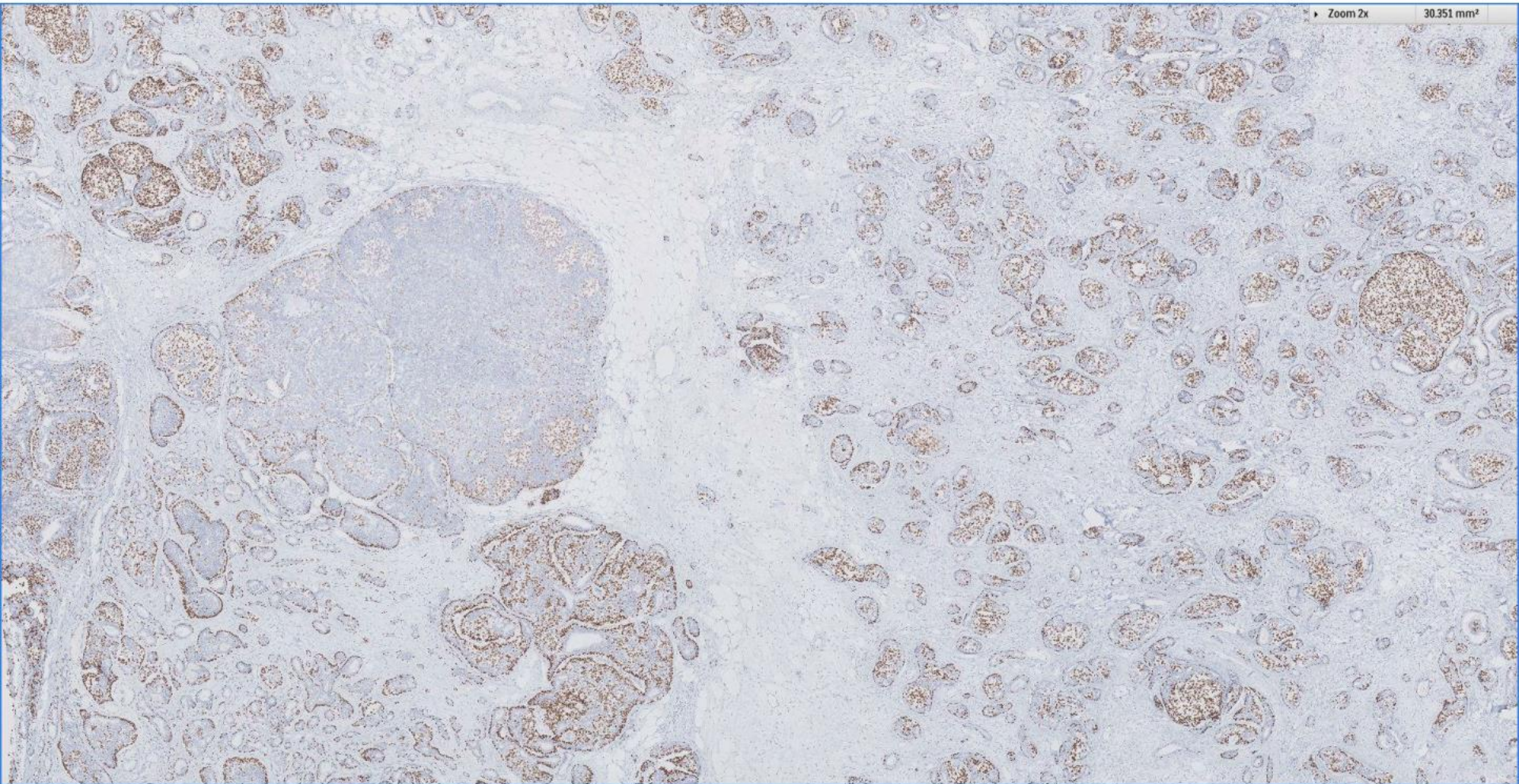
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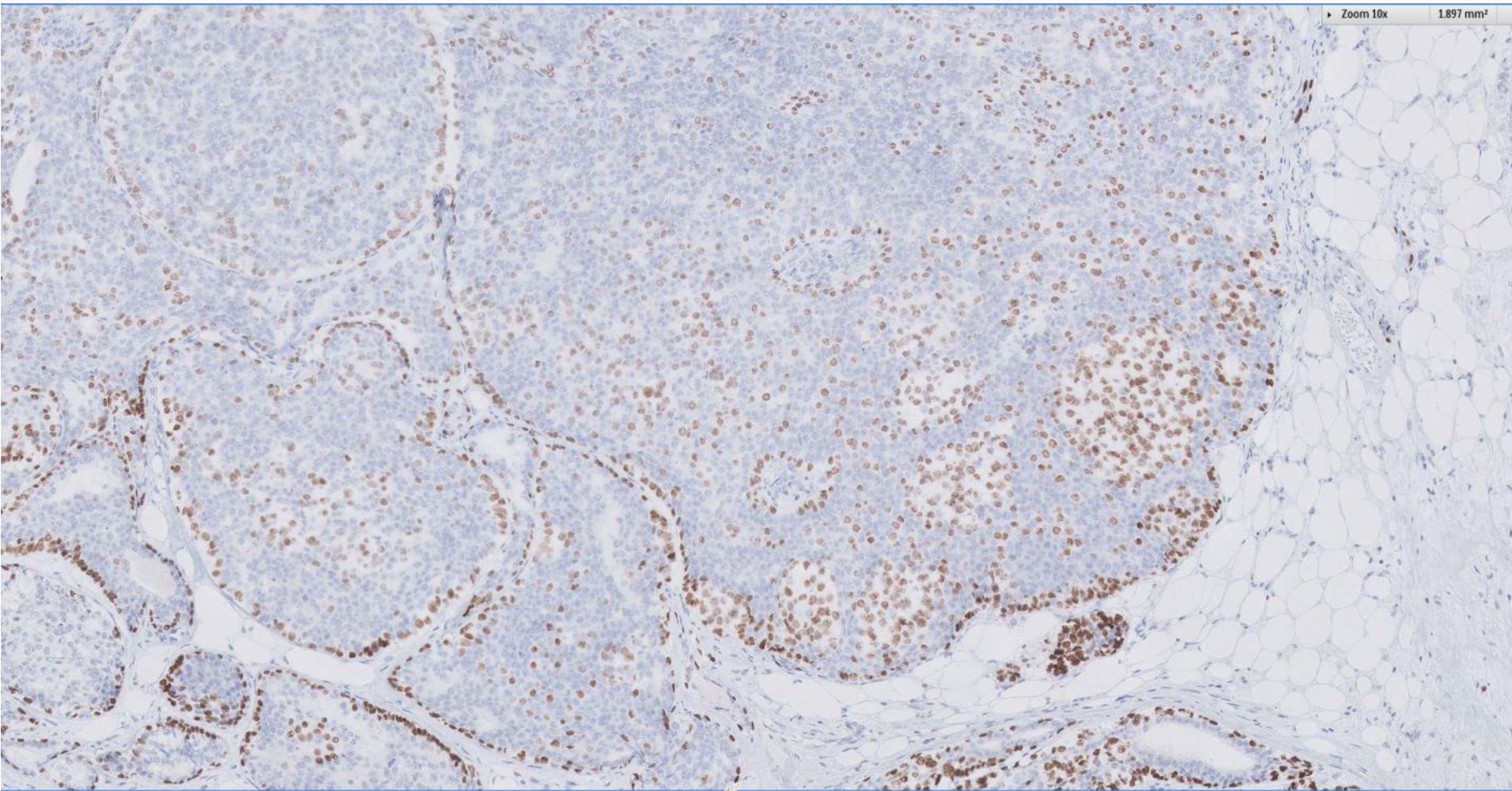
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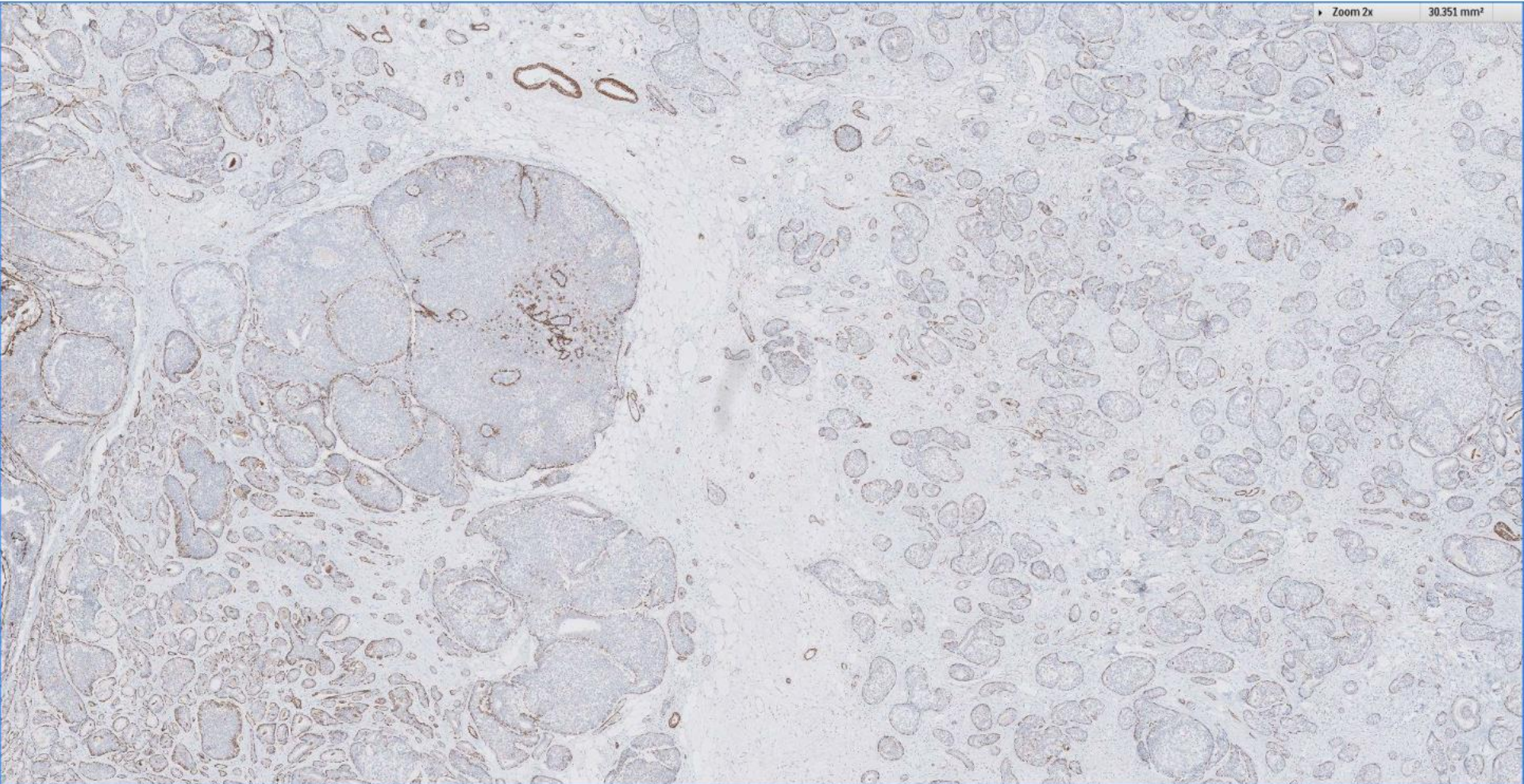
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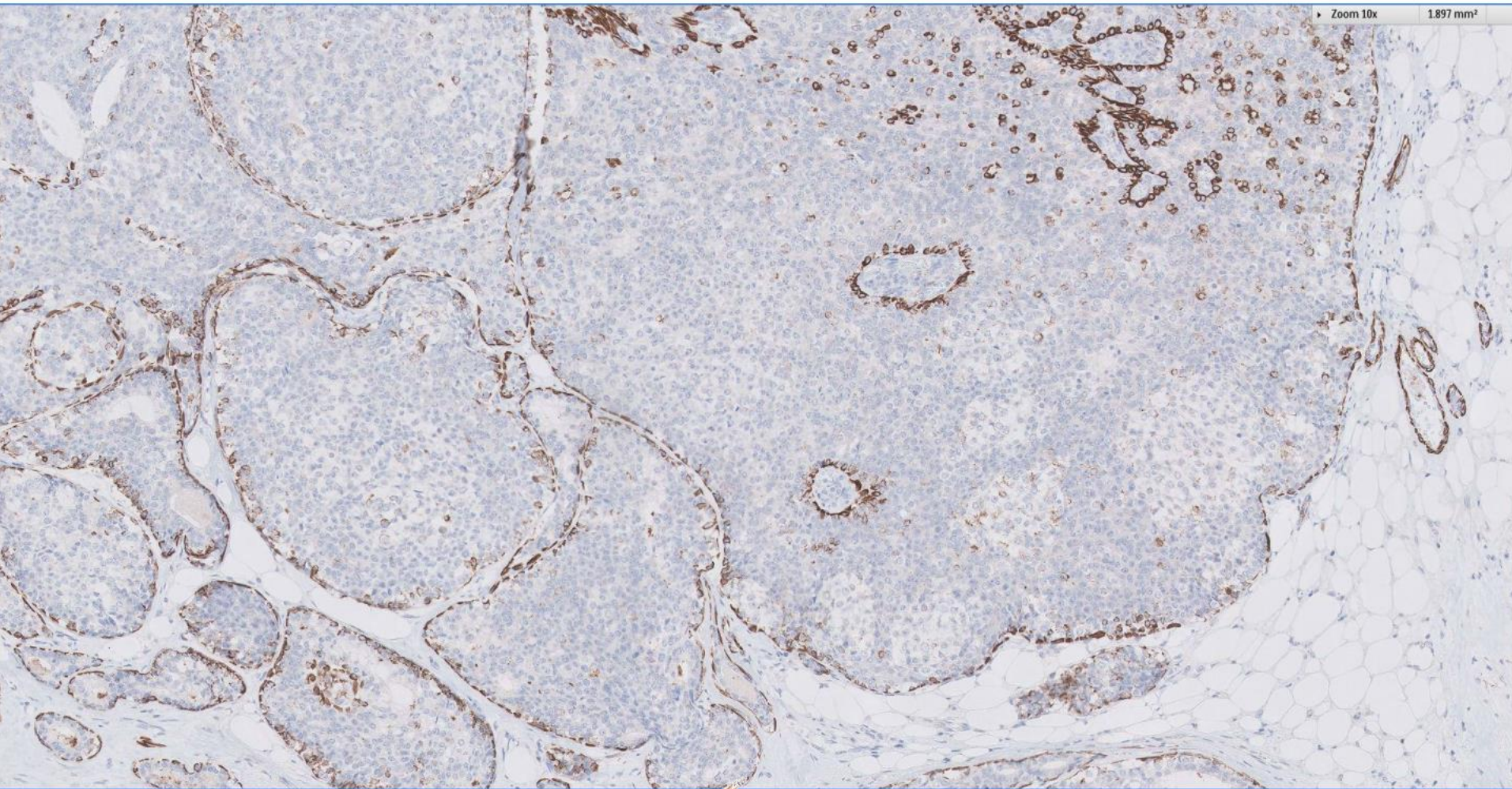
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SMMS



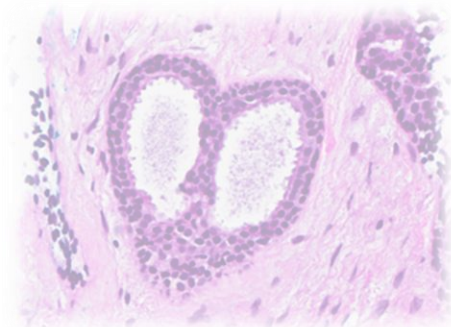
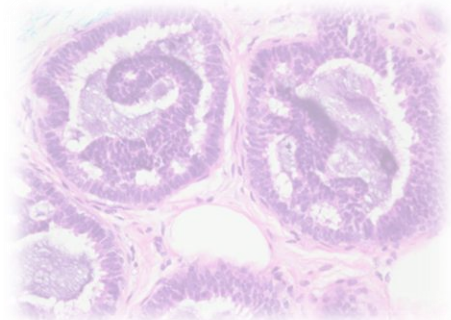
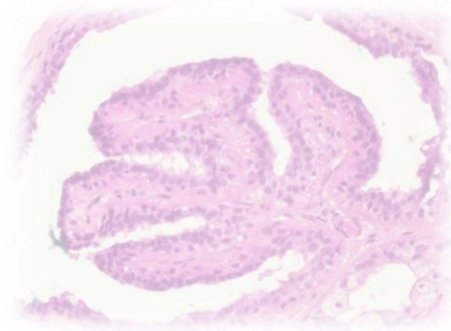
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Diagnosis, case 30

- Left breast, mastectomy:
Invasive carcinoma with epithelial-
myoepithelial differentiation, grade 3.

*(epithelial-myoepithelial carcinoma ~
malignant adenomyoepithelioma)*



Malignant adenomyoepithelioma *~ definition*

- Adenomyoepithelioma (AME) with carcinoma, in which the malignancy may arise from either luminal epithelial or myoepithelial components, or from both cell types.
- When both epithelial and myoepithelial compartments are malignant, the term “epithelial-myoepithelial carcinoma” is used.

Malignant adenomyoepithelioma ~ histopathology

- Wide spectrum of morphological features.
- In AME with malignant change of the luminal and/or myoepithelial compartment, the histological appearance of an AME is recognized, with transition to carcinoma observed as cytological atypia, increased mitoses, and necrosis in the malignant component.
- When the malignant transformation involves mainly the epithelial component, it can include features of invasive breast carcinoma of no special type (NST), invasive lobular carcinoma, and carcinomas of special types.
- When the malignant transformation affects mainly the myoepithelial component, features of myoepithelial cell carcinoma predominate; such cases are characterized by overgrowth of spindle or epithelioid myoepithelial cells, with clear or eosinophilic cytoplasm, nuclear atypia, and frequent mitotic figures.

Malignant adenomyoepithelioma ~ histopathology

- Not uncommonly, the invasive carcinoma component is of the metaplastic subtype; squamous cell carcinoma, low-grade adenosquamous carcinoma, spindle cell carcinoma, carcinosarcoma, and matrix-producing carcinoma have been reported.
- In these cases, an AME component should be searched for, by extensive sampling of the tumour.
- In rare cases, malignancy can affect both the epithelial and myoepithelial components, giving rise to biphasic carcinomas composed of a mixture of malignant epithelial and myoepithelial cells, with the latter often being the predominant cell type.
- At low-power magnification, these tumours show a multilobulated or multinodular growth pattern. Rarely, a papillary architecture can be observed.
- Transition between classic benign AME and AME-M features may be appreciated.

Malignant adenomyoepithelioma ~ histopathology

- Epithelial-myoepithelial carcinoma shows malignant changes in both the luminal and myoepithelial components.
- Specifically, mitotic count is increased in the malignant areas.
- The biphasic epithelial-myoepithelial nature, with dual cell types, is the key feature for the differential diagnosis with metaplastic carcinoma
- Immunohistochemistry with markers of epithelial and myoepithelial cell lineages can be useful.
- Mitotically active classic AME can be difficult to distinguish from AME-M.
- The use of mitotic counts has been proposed; however, the validity and clinical utility of this approach have yet to be demonstrated.

Malignant adenomyoepithelioma *~ diagnostic molecular pathology*

- AME-M may be ER-positive or ER-negative, although malignant transformation of classic AME might be more frequent in ER-negative lesions.
- The ER status may be concordant in both classic and malignant components, but an ER-negative carcinoma has been reported in association with an ER-positive AME.
- ERBB2 (HER2) amplification is not detected.

Malignant adenomyoepithelioma ~ diagnostic criteria

Malignant adenomyoepithelioma

- *Essential:* a malignant tumour arising in association with classic AME, with the luminal or myoepithelial component (or both) being malignant.

Epithelial-myoepithelial carcinoma

- *Essential:* a malignant tumour with malignant changes in the luminal and myoepithelial components and high mitotic activity, irrespective of the presence of a recognizable benign AME.

Malignant adenomyoepithelioma

- **Staging**

AME-M is staged according to the criteria adopted for other types of invasive breast carcinomas.

Malignant adenomyoepithelioma *~ prognosis & prediction*

- The relatively low number of reported cases and short periods of follow-up limit the available information on prognostic features in AME-M.
- Metastases can appear several years after primary diagnosis, as well as in AMEs without atypical histological features.
- The prognosis of cases with malignant transformation in both epithelial and myoepithelial components (epithelial-myoepithelial carcinoma) is difficult to assess due to the rarity of these cases.
- Haematogenous spread seems to be more frequent than lymphatic spread, with the lungs and brain being the most common metastatic sites.
- The prognosis of AME-M with invasive carcinoma depends on the histological subtype of the invasive disease.
- Given that this component is most commonly metaplastic carcinoma, the prognosis may be poor, with the lungs being the most common metastatic site. However, cases with adenosquamous carcinoma have shown a better outcome.
- The genetic profile of AME-M with invasive carcinoma, and therefore its prognosis, may differ from that of invasive disease of the same subtype not associated with AME.
- Lymph node metastases are rare, and there are insufficient data available to suggest axillary dissection.
- Nevertheless, management approaches based on the invasive disease present may be prudent.

Thank You