

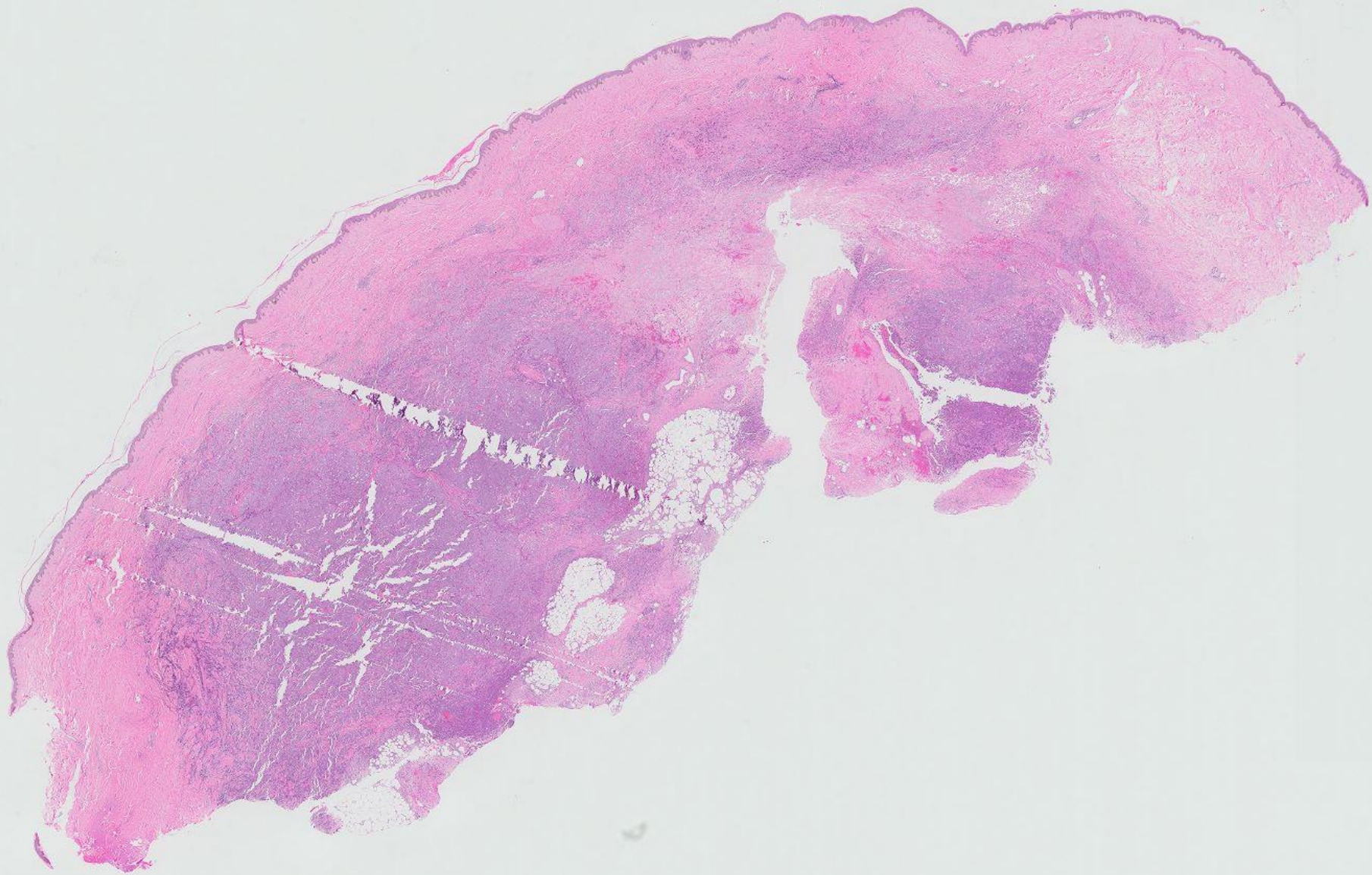
Case 13

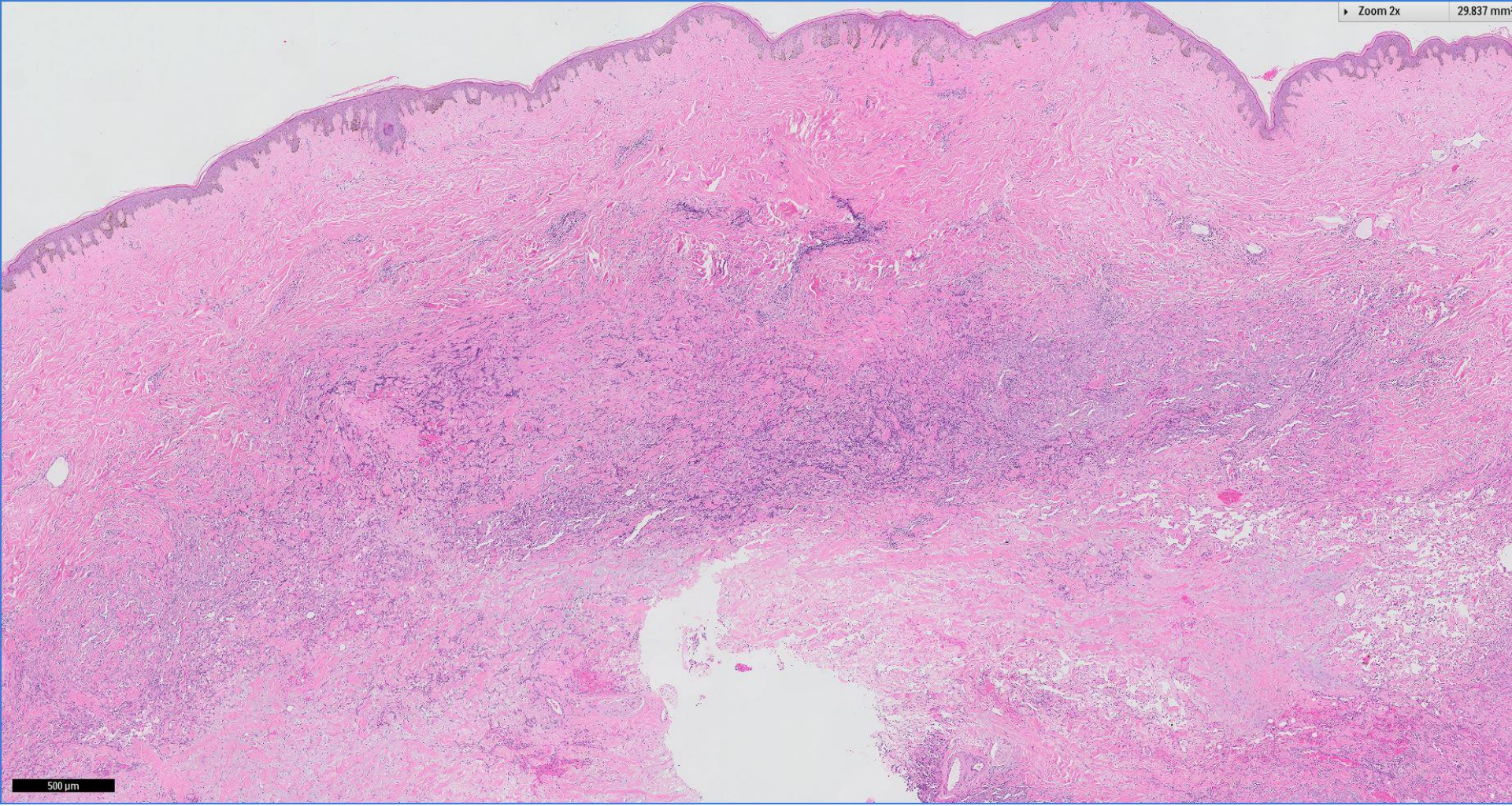
70 year old woman with a past history of invasive carcinoma of the right breast diagnosed in 2004, status post wide excision, radiation and hormonal treatment.

Current complaint of painful induration over the skin of the right breast.

Incisional biopsy performed.

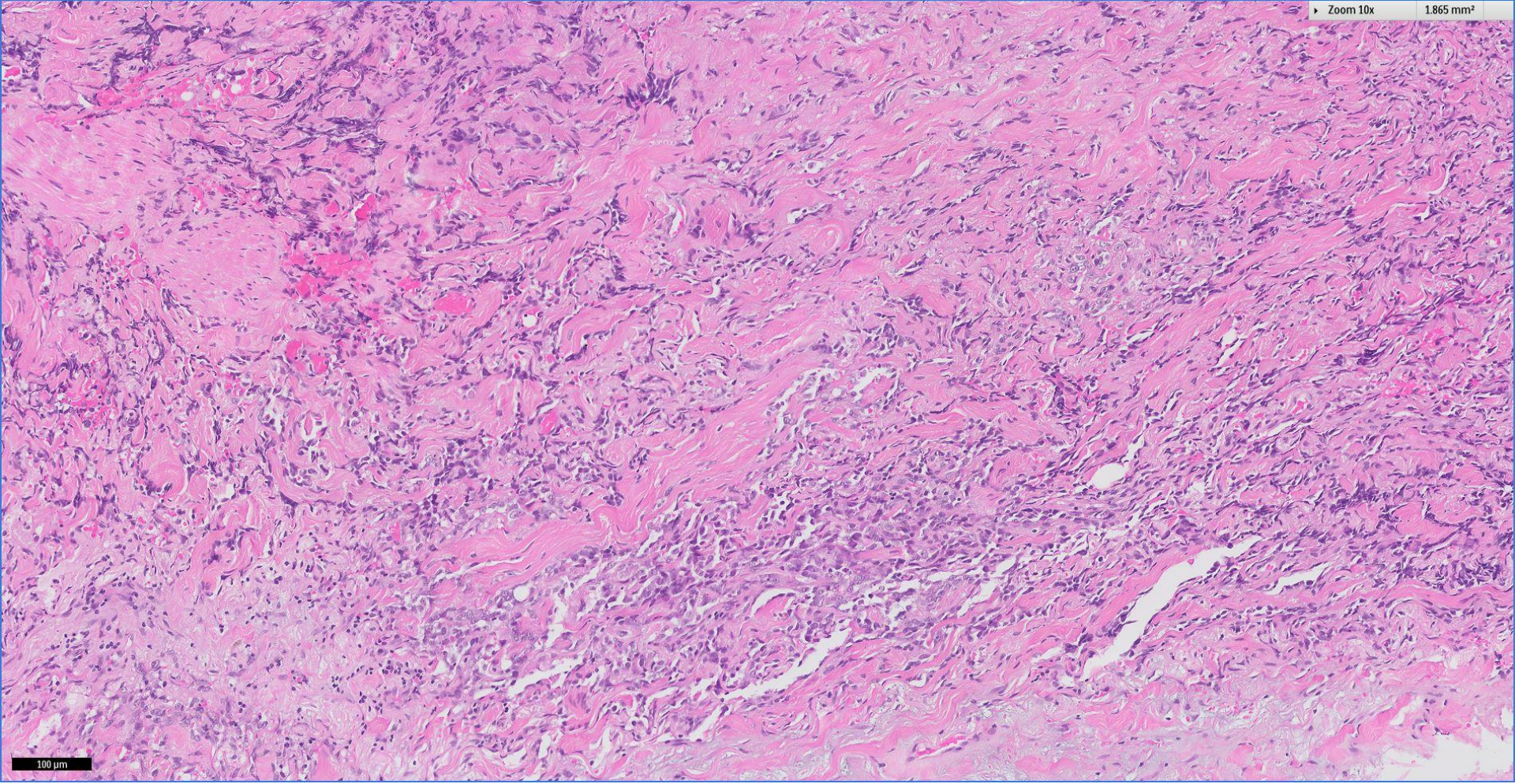






Zoom 10x

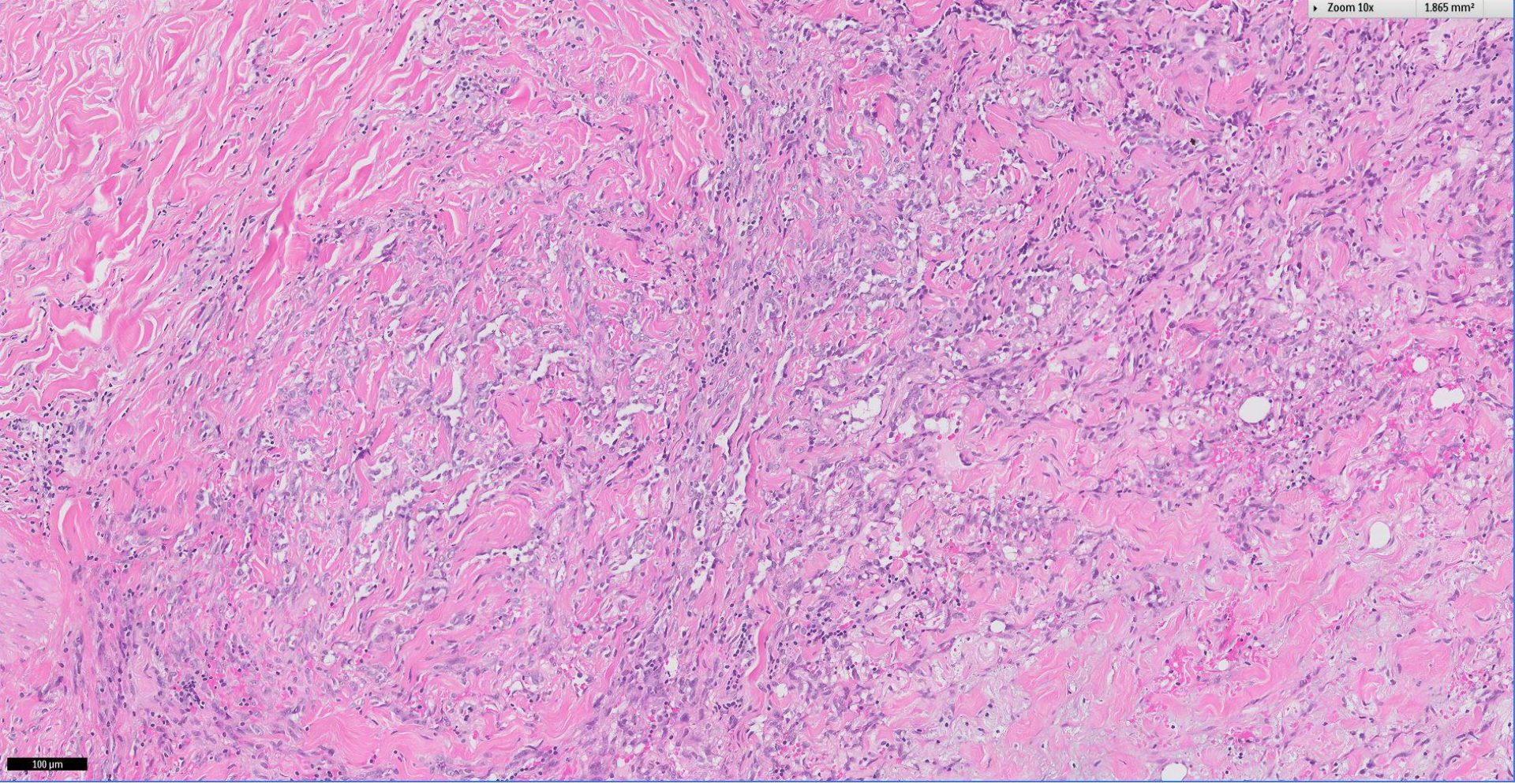
1.865 mm²



100 μm

Zoom 10x

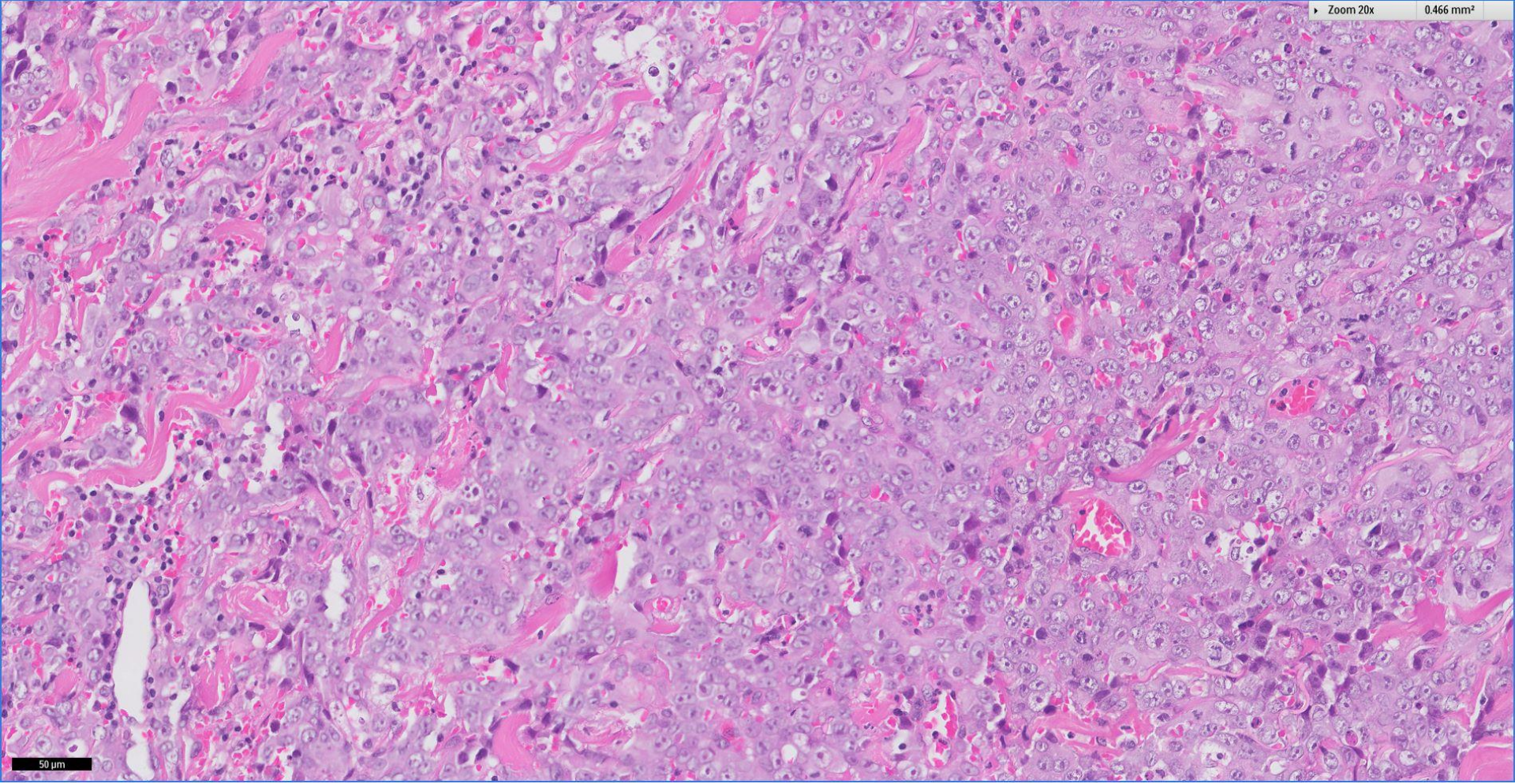
1.865 mm²



100 μm

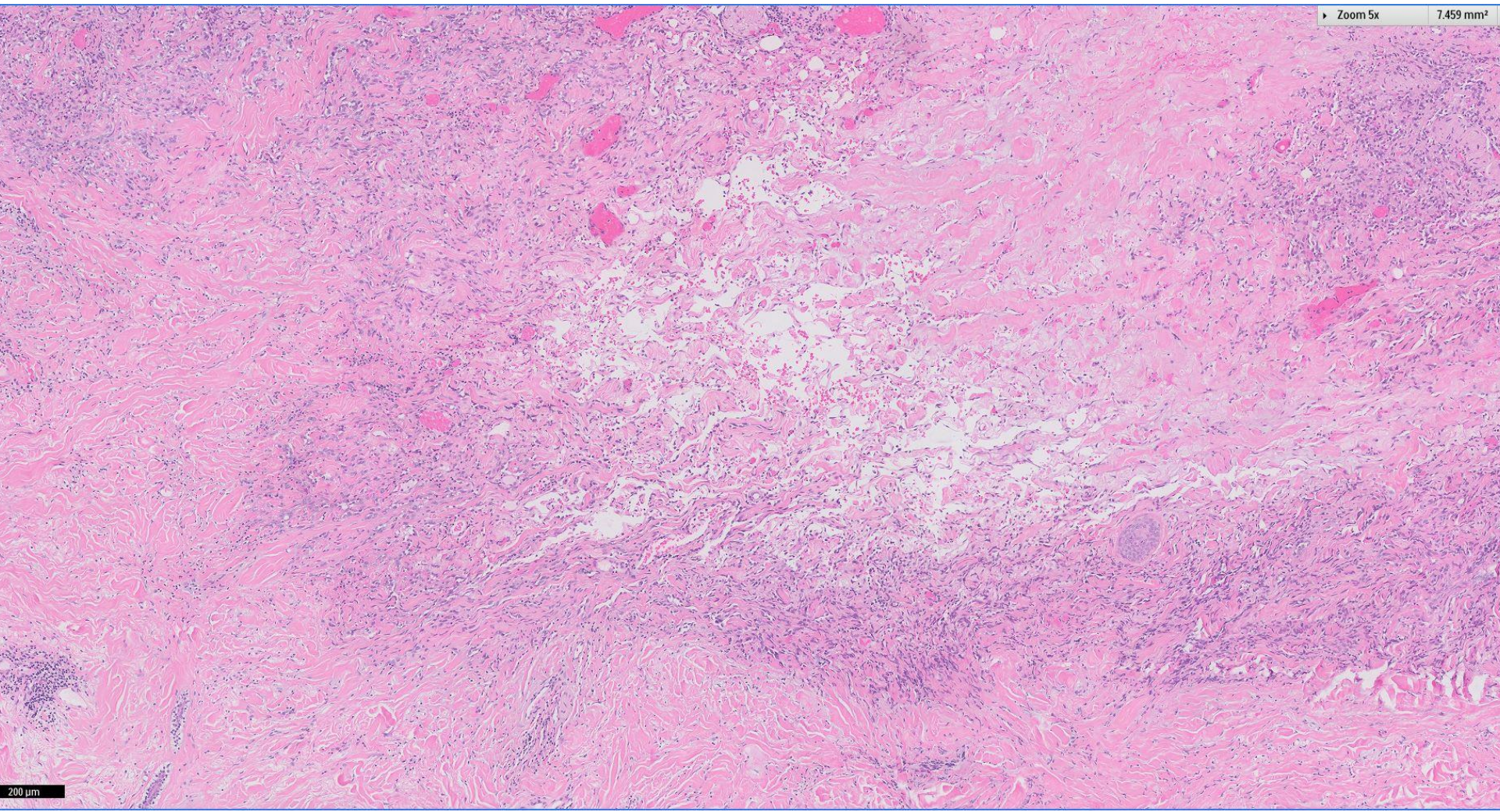
Zoom 20x

0.466 mm²



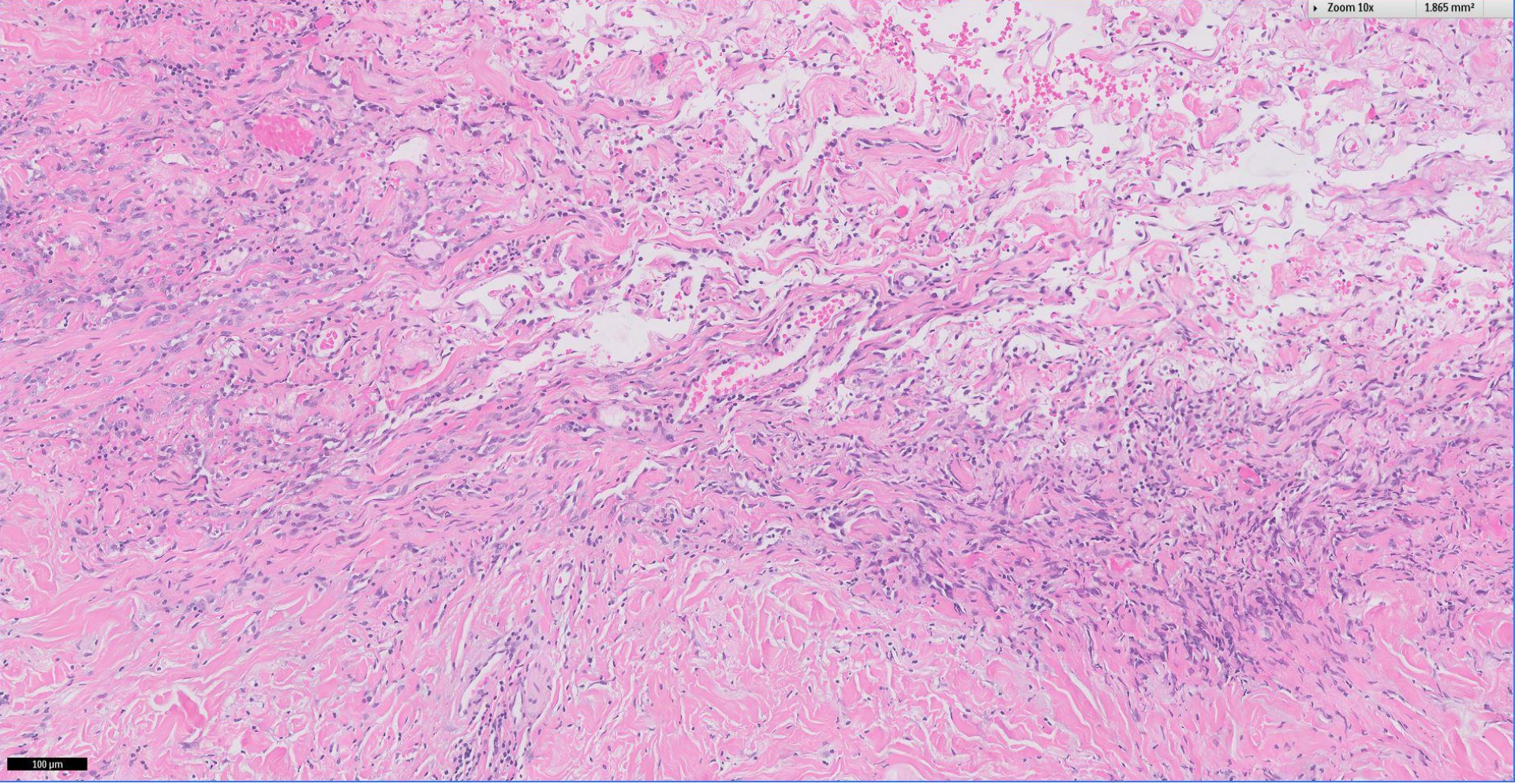
50 µm





Zoom 10x

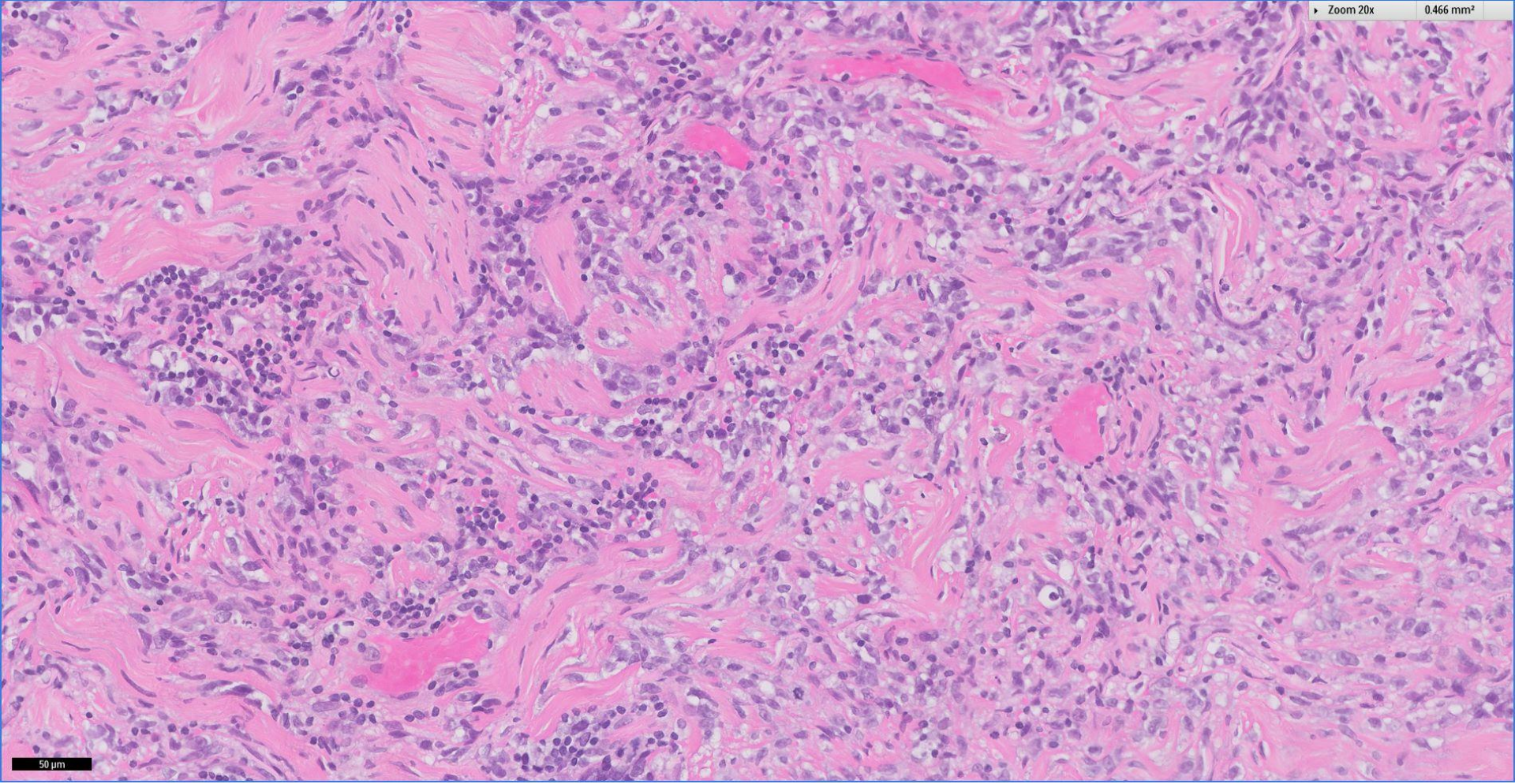
1.865 mm²



100 μ m

Zoom 20x

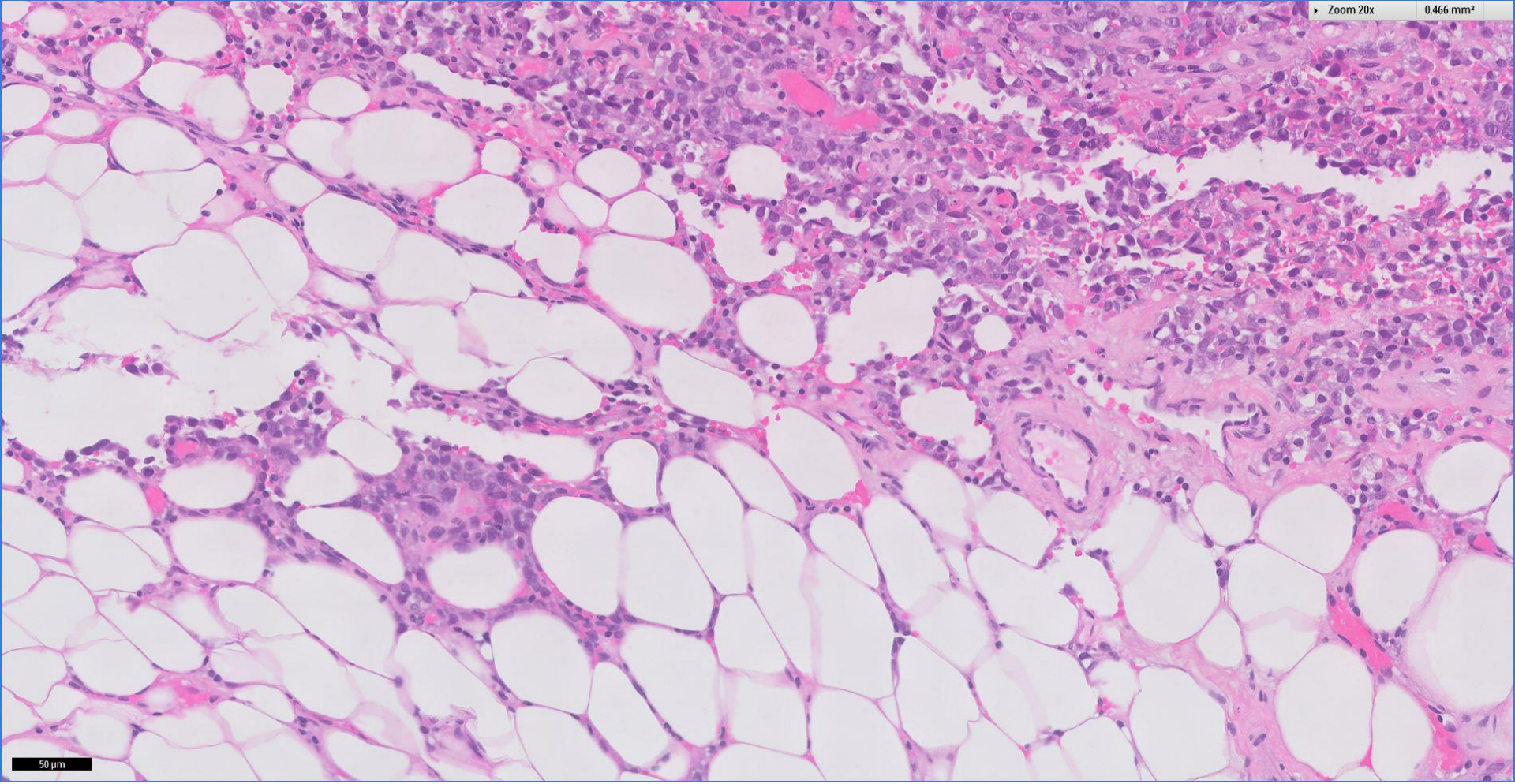
0.466 mm²



50 μm

Zoom 20x

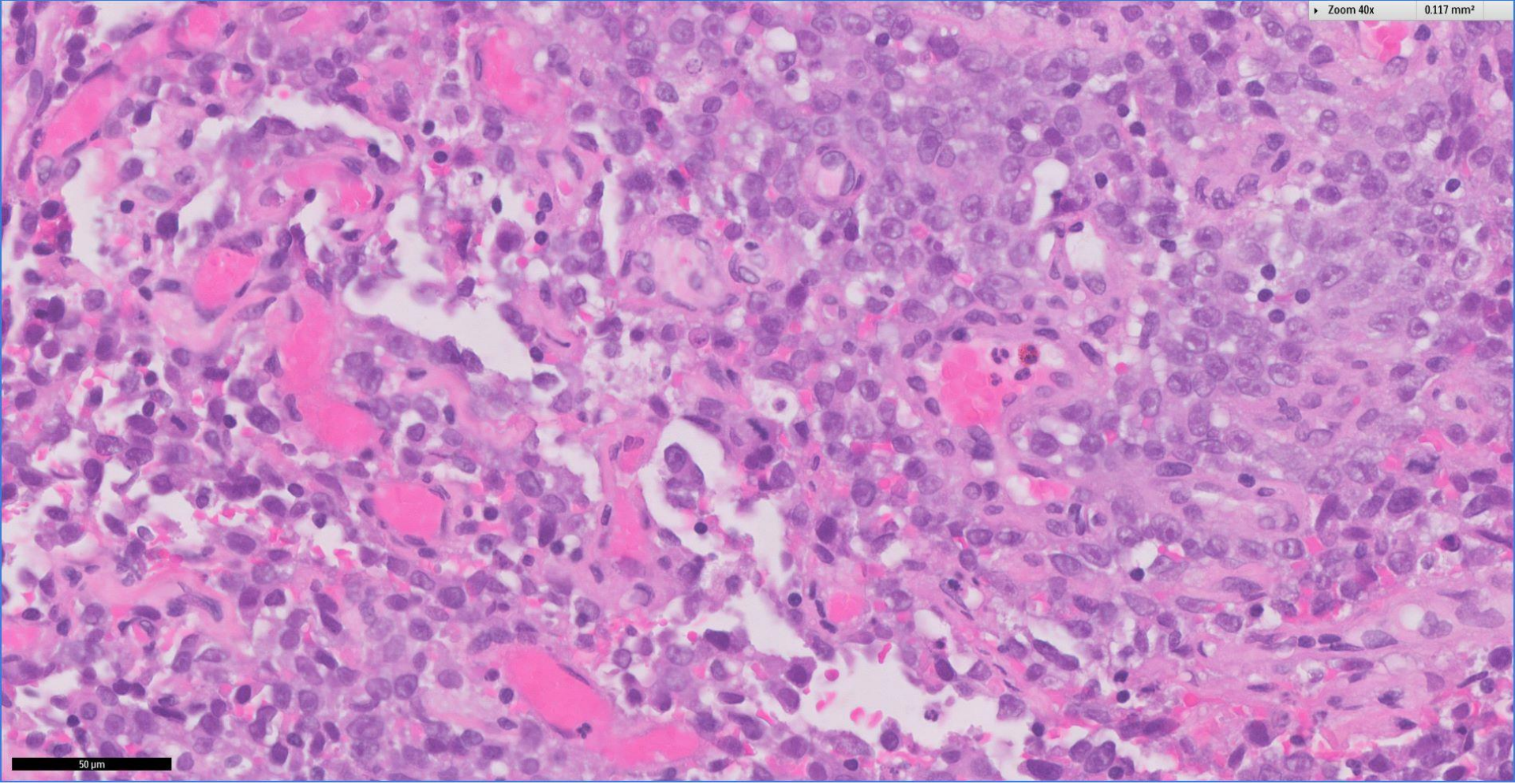
0.466 mm²



50 μ m

Zoom 40x

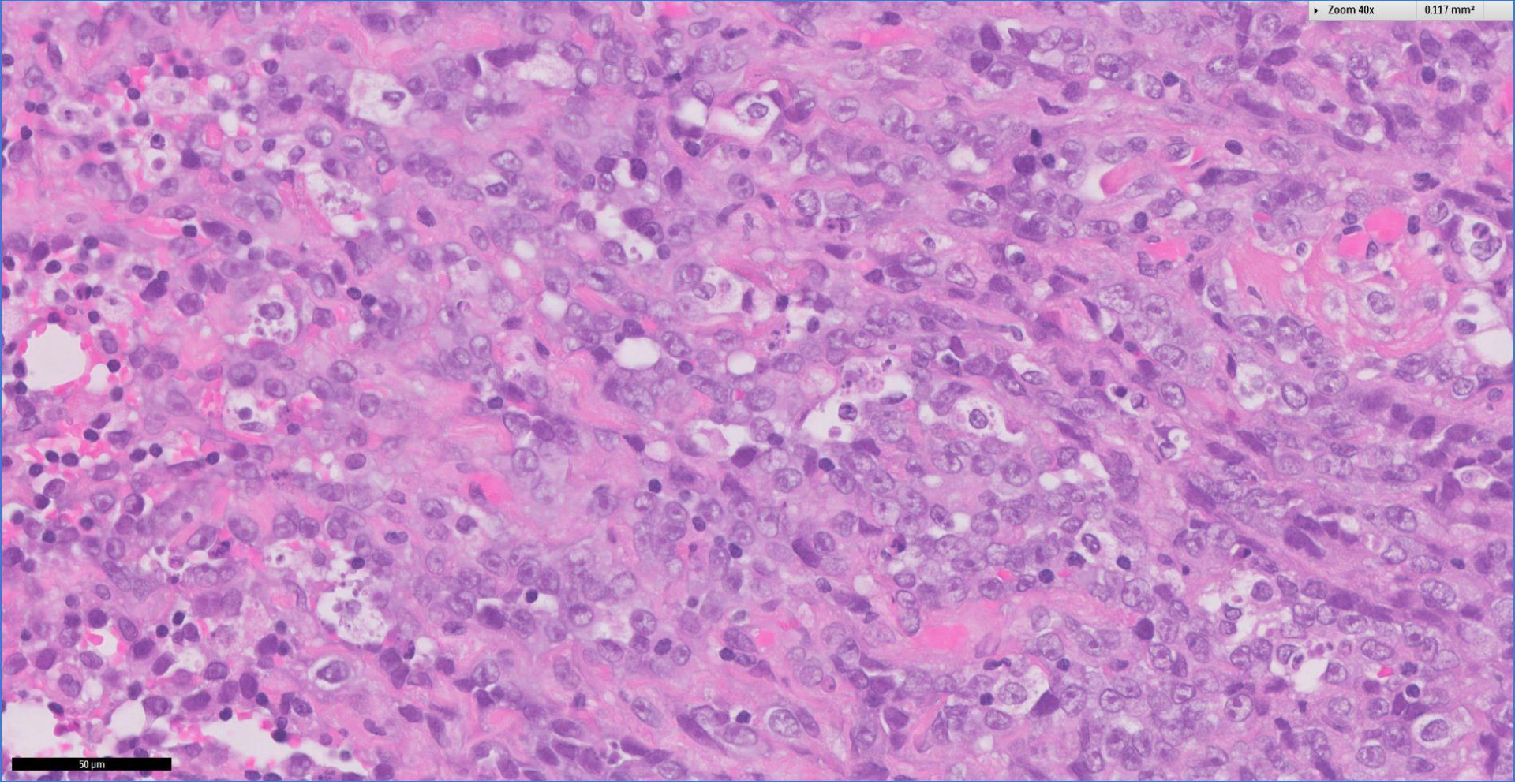
0.117 mm²



50 μm

Zoom 40x

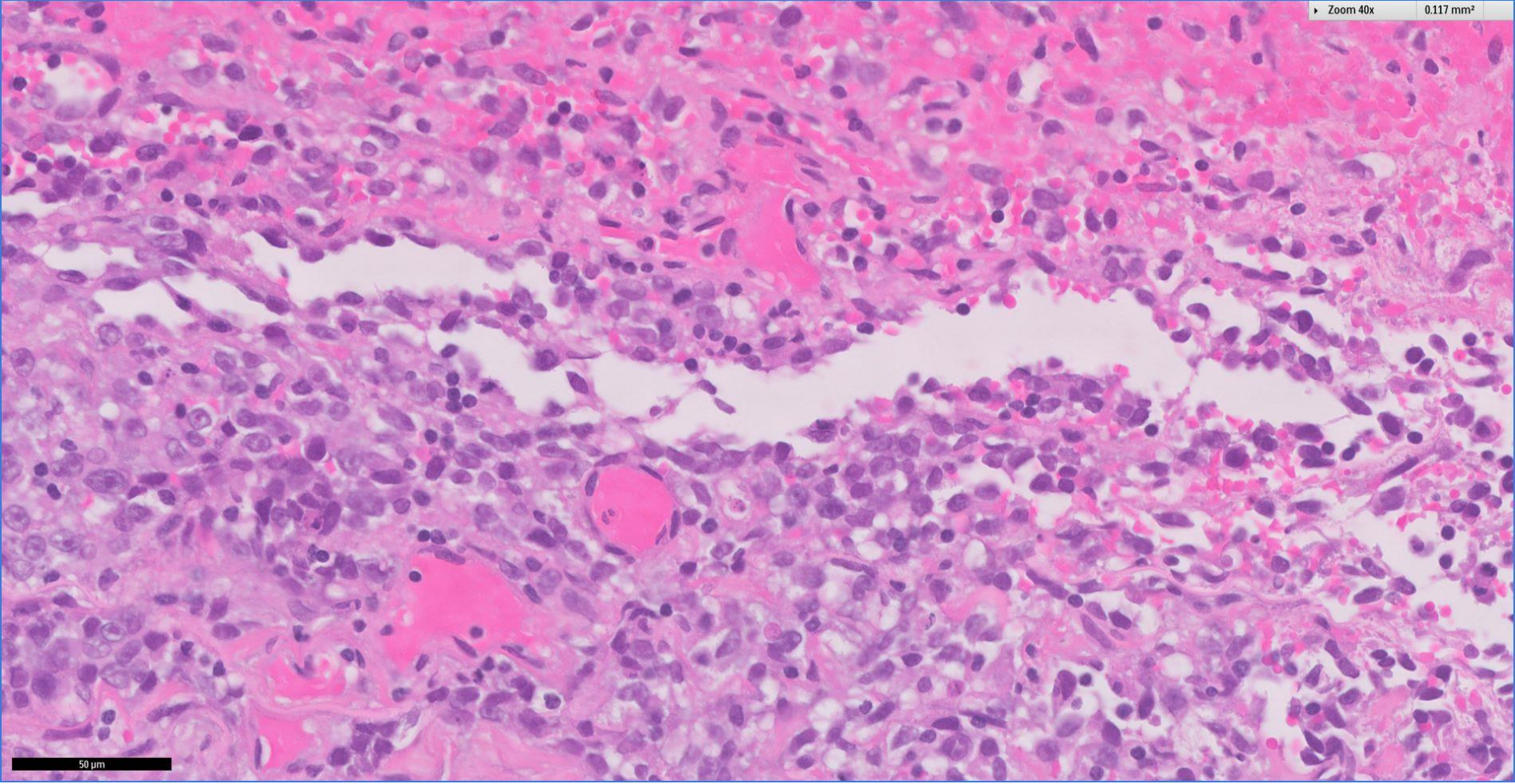
0.117 mm²



50 μm

Zoom 40x

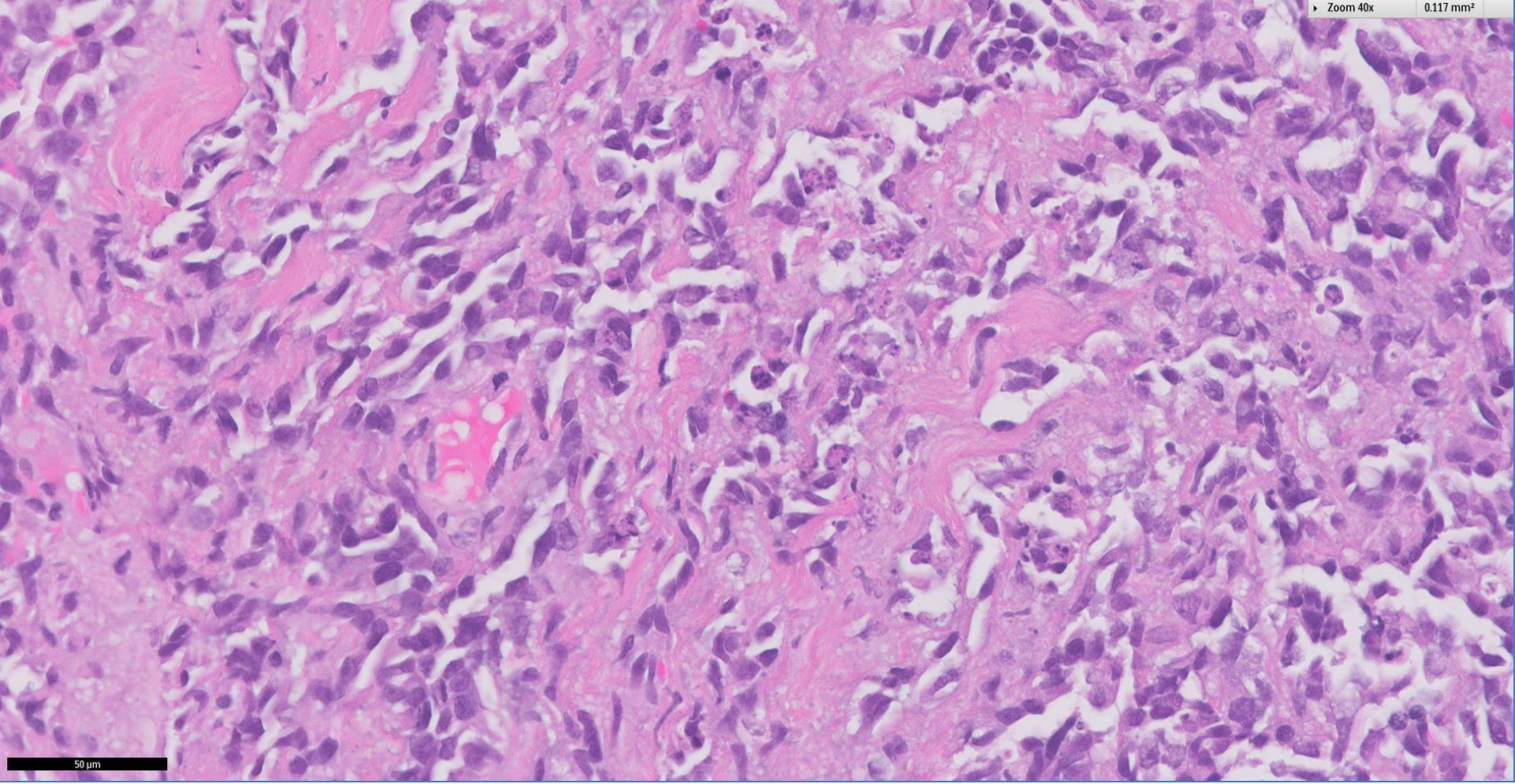
0.117 mm²



50 μm

Zoom 40x

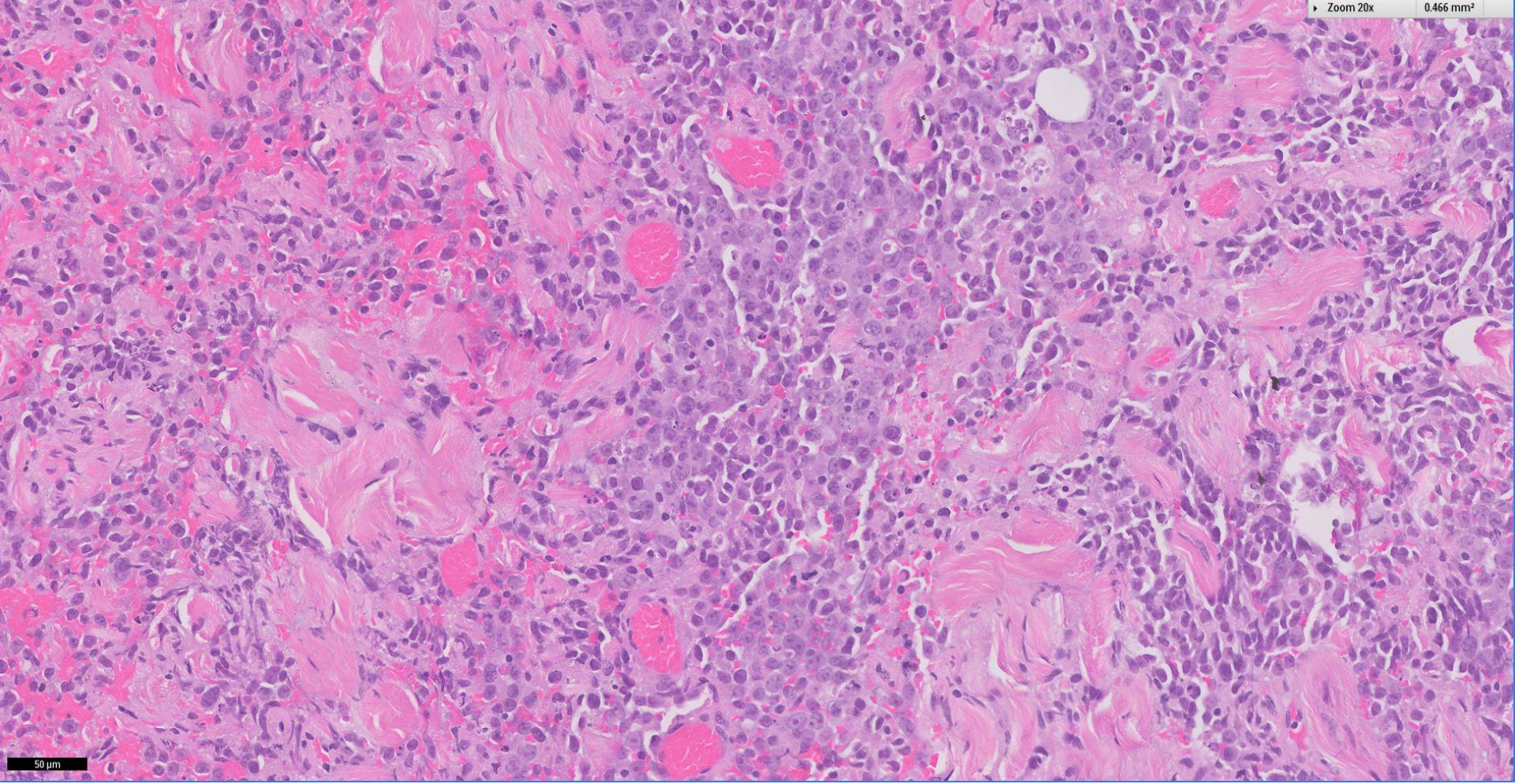
0.117 mm²



50 μm

Zoom 20x

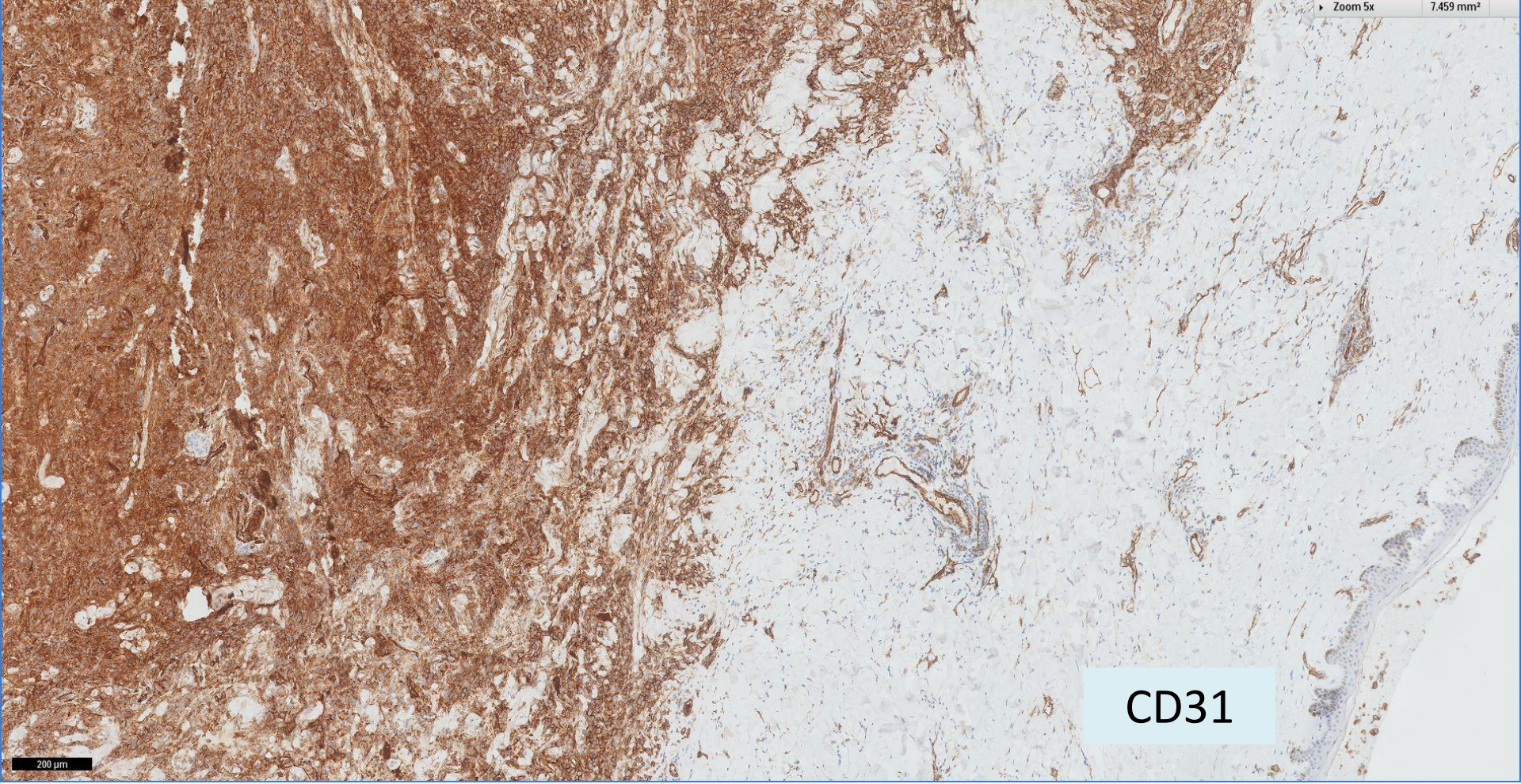
0.466 mm²



50 μ m

Zoom 5x

7.459 mm²

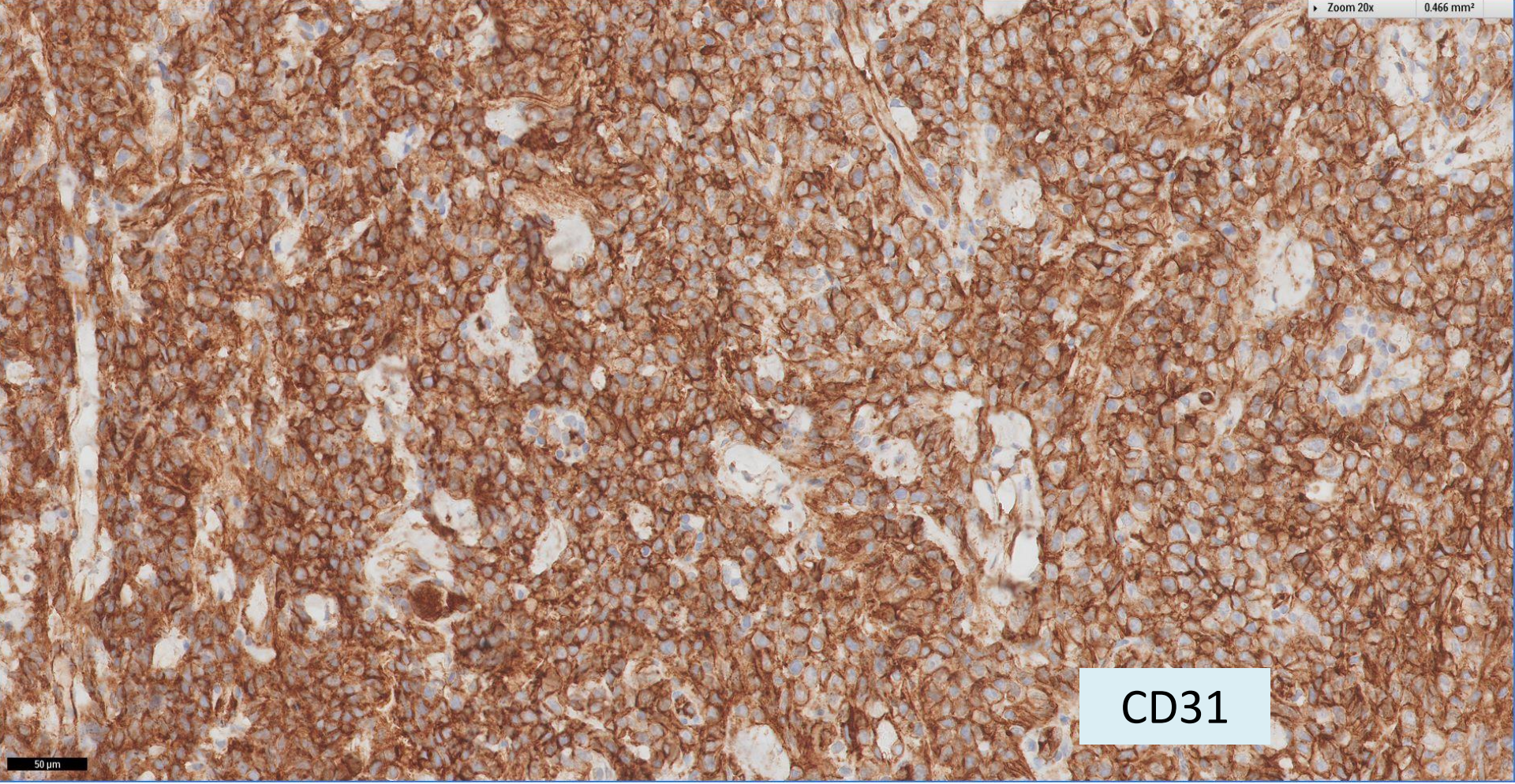


CD31

200 μm

Zoom 20x

0.466 mm²

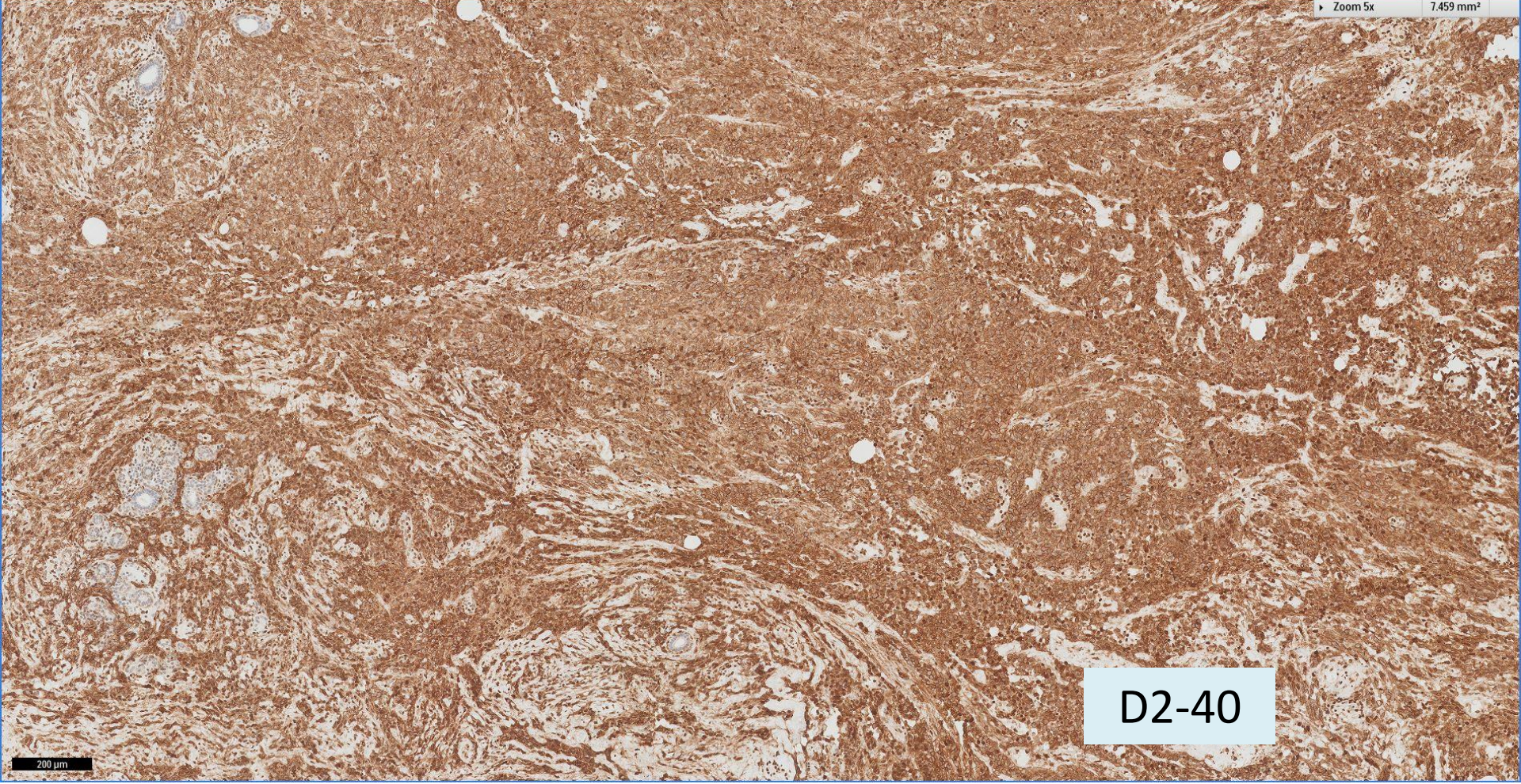


CD31

50 μm

Zoom 5x

7.459 mm²

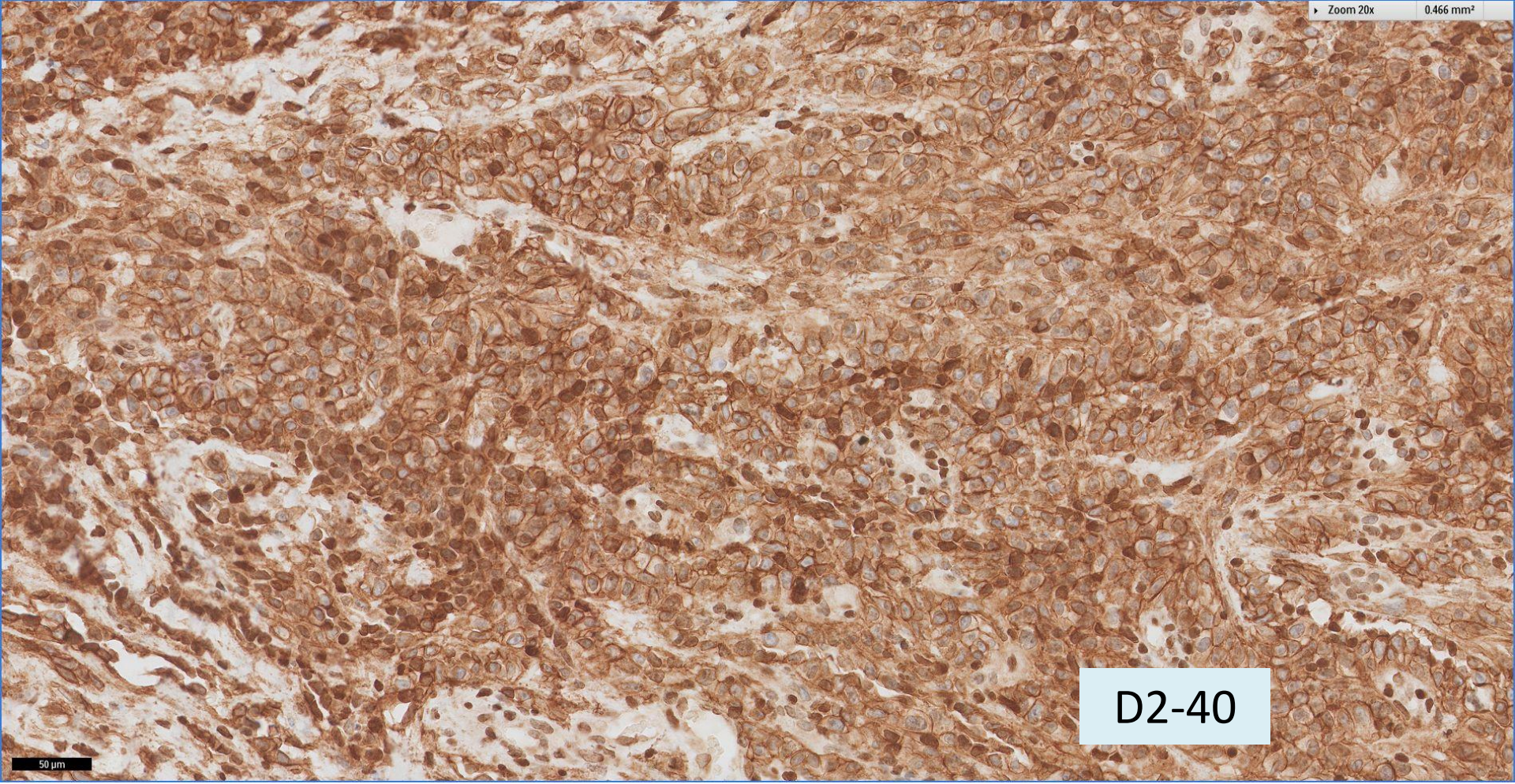


D2-40

200 μm

Zoom 20x

0.466 mm²

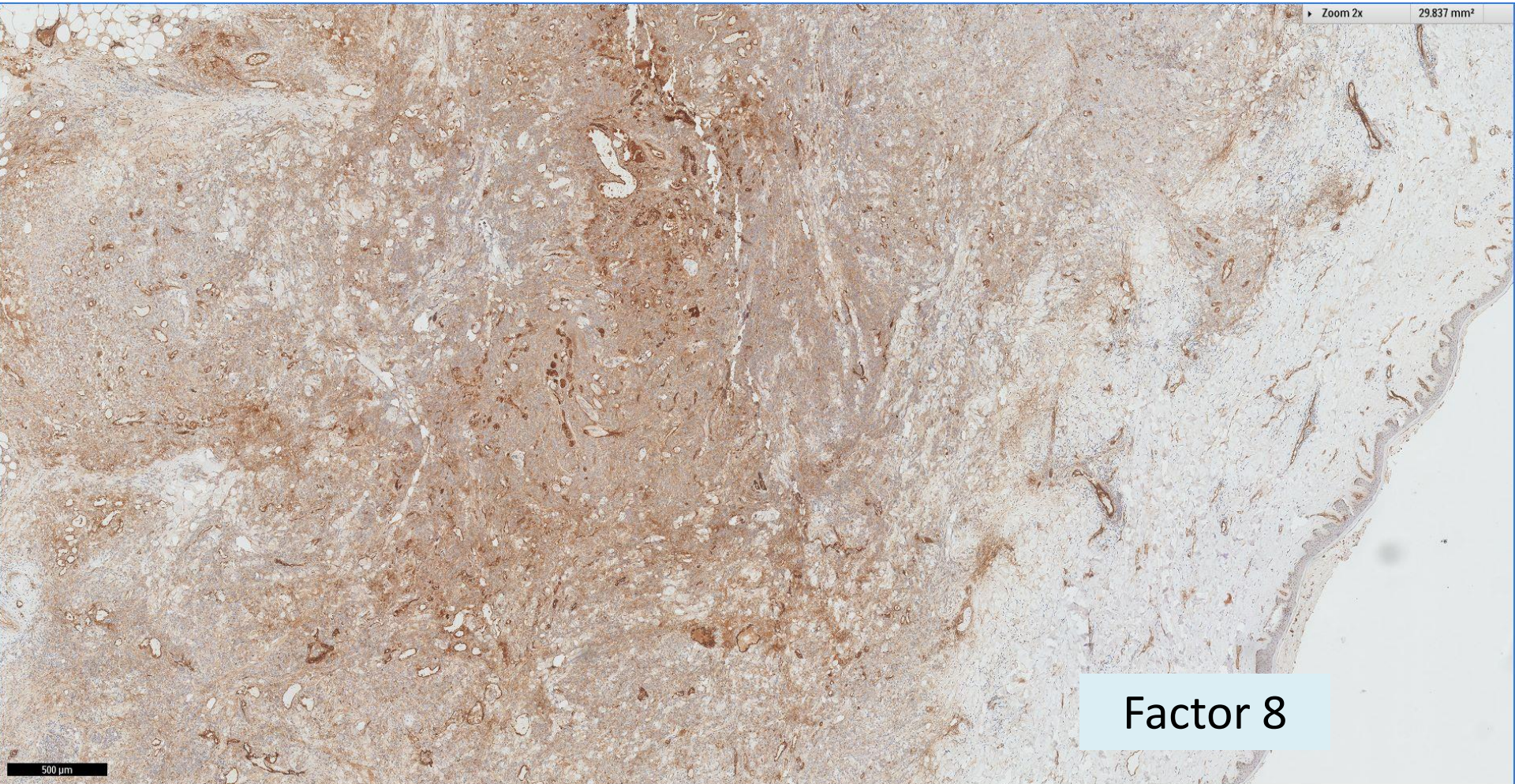


D2-40

50 μm

Zoom 2x

29.837 mm²

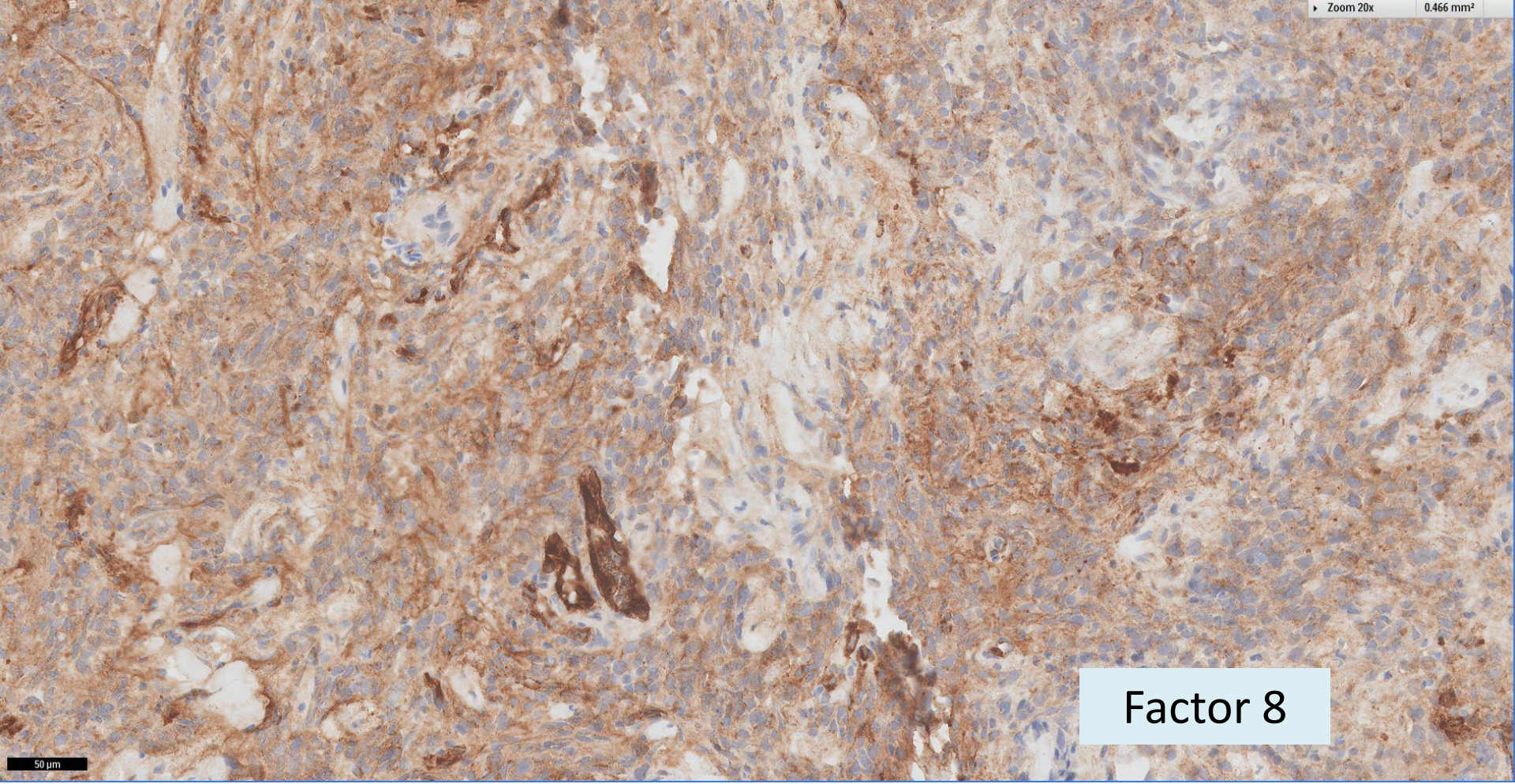


500 μm

Factor 8

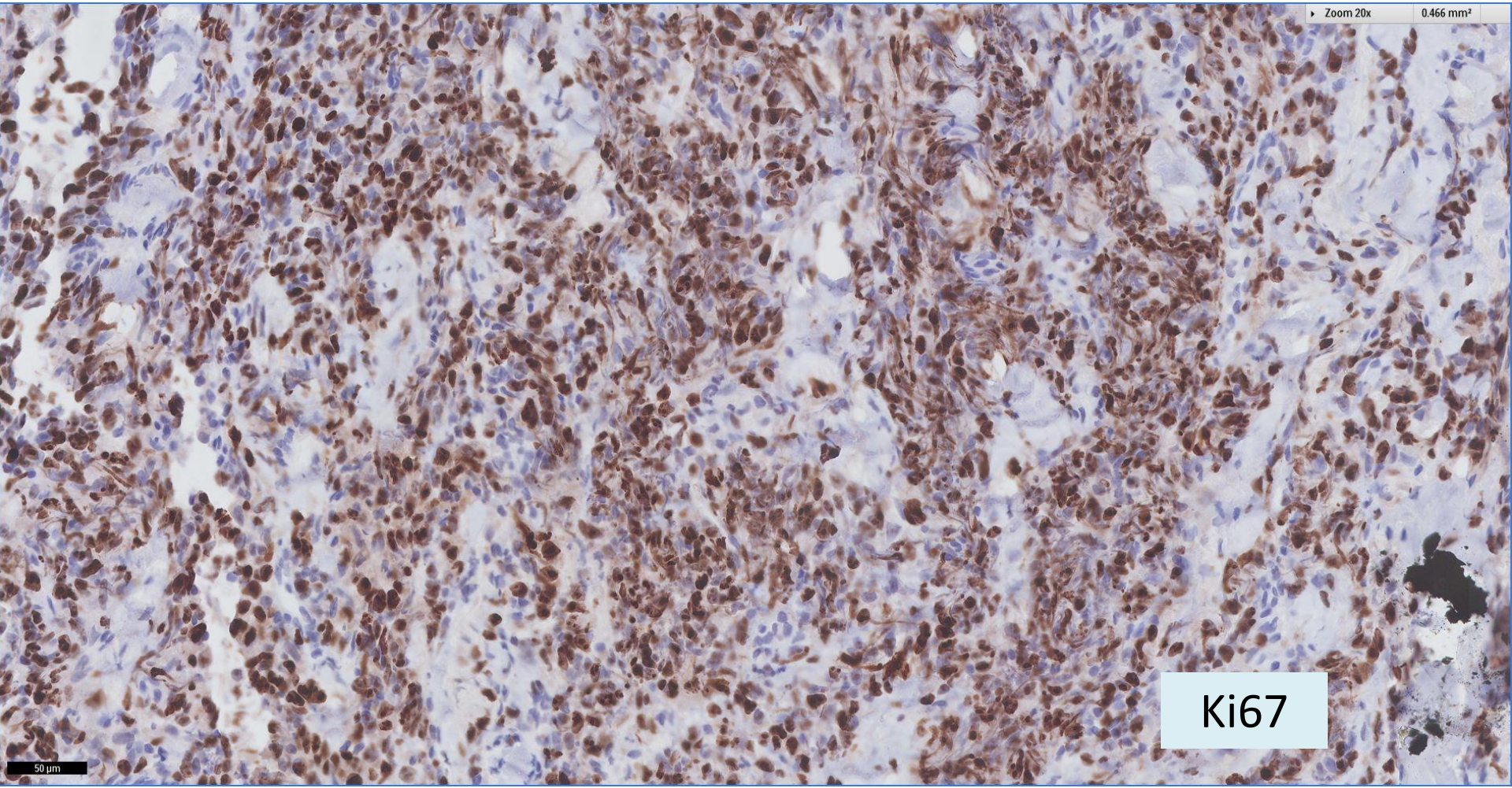
Zoom 20x

0.466 mm²



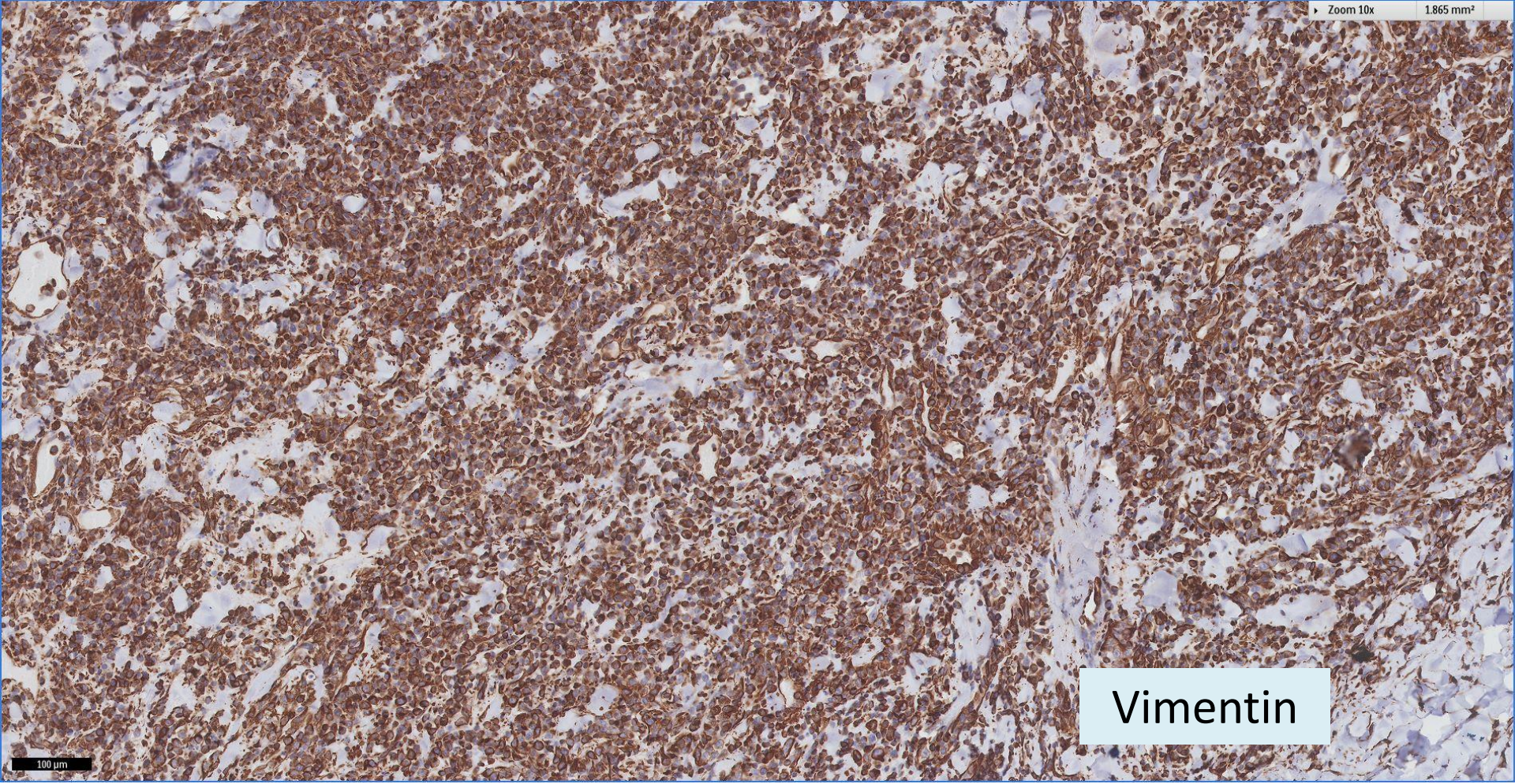
Factor 8

50 μm



Ki67

50 μm



Vimentin

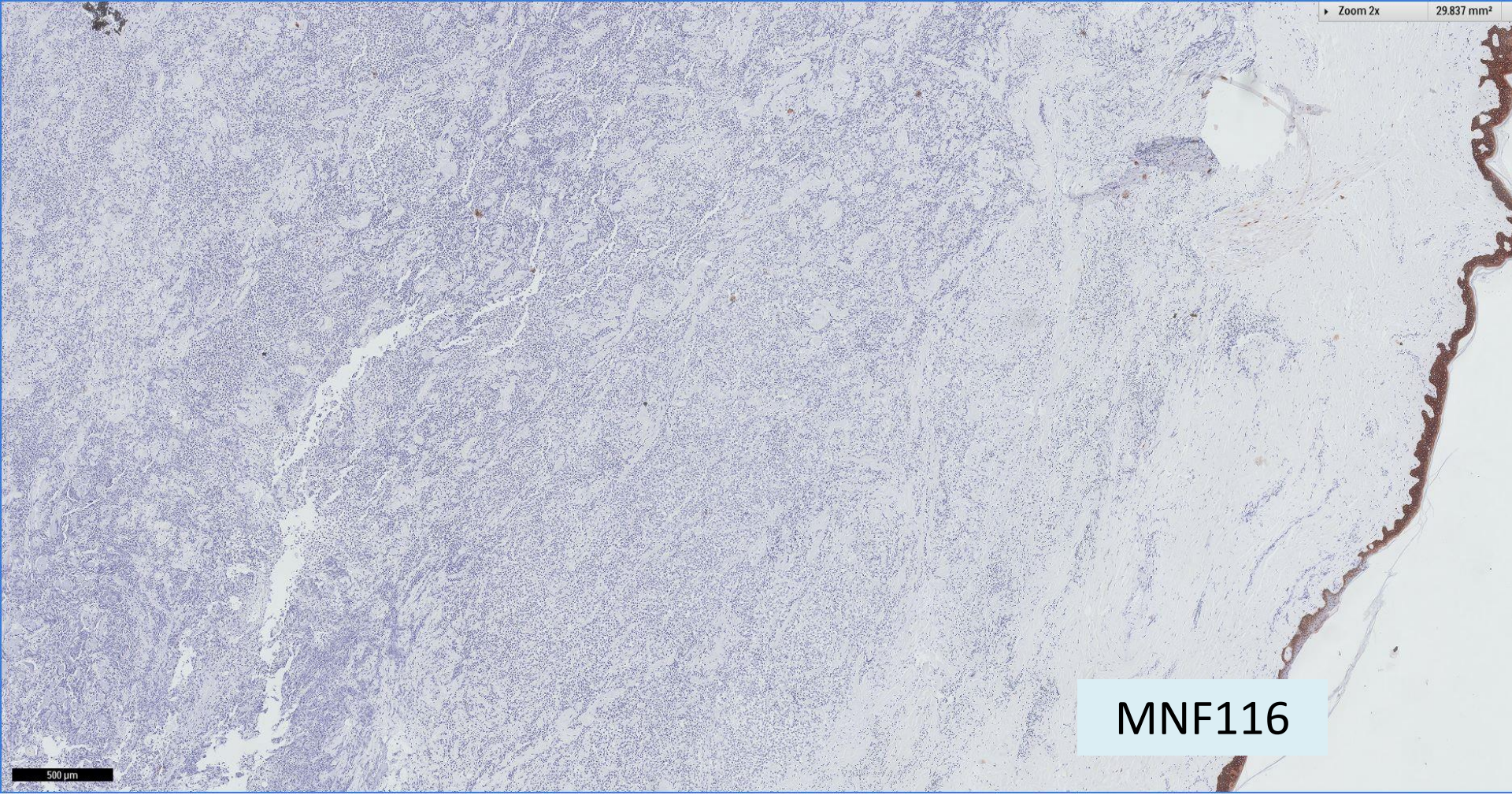
100 μm

Zoom 2x

29.837 mm²

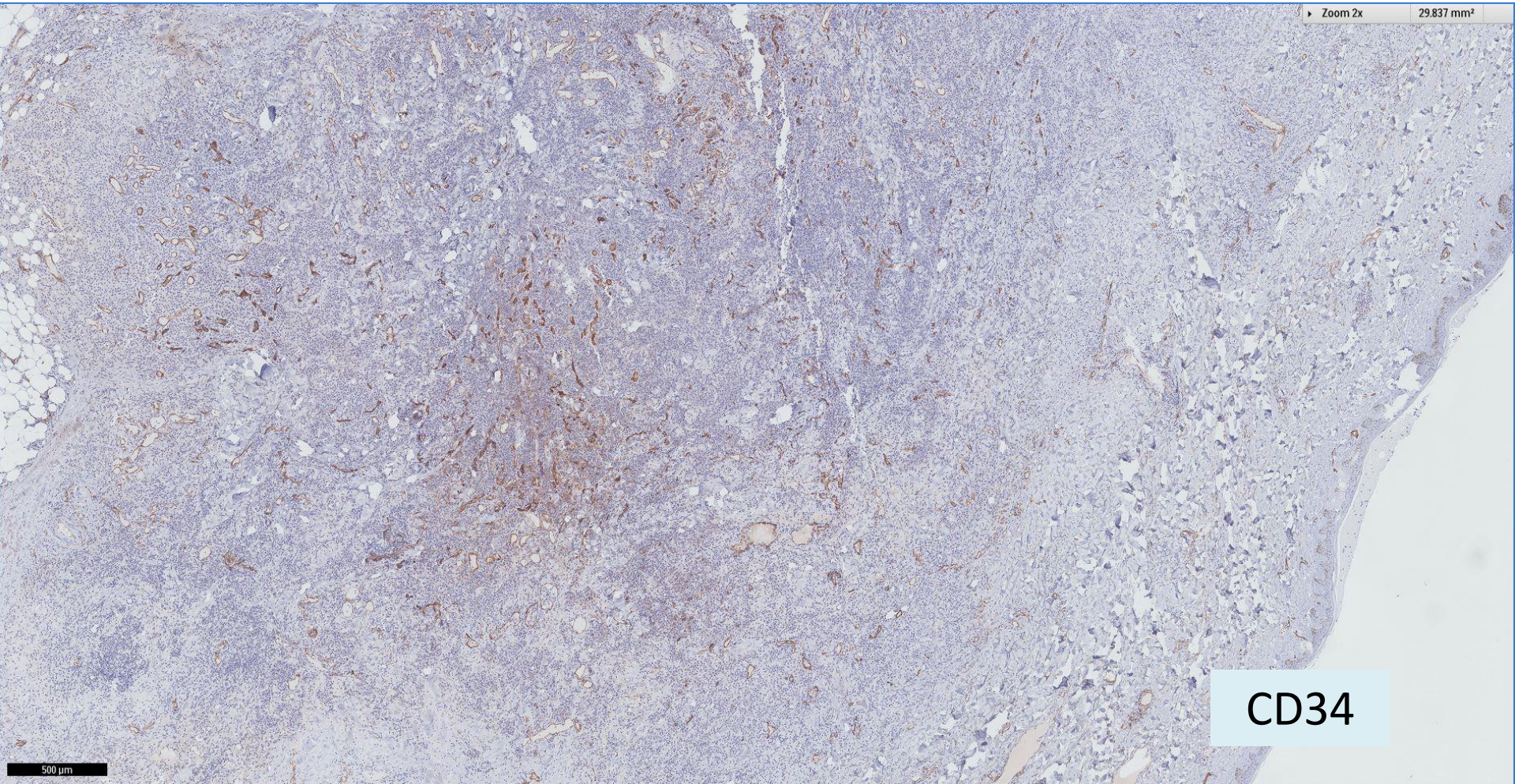
MNF116

500 μm



Zoom 2x

29.837 mm²

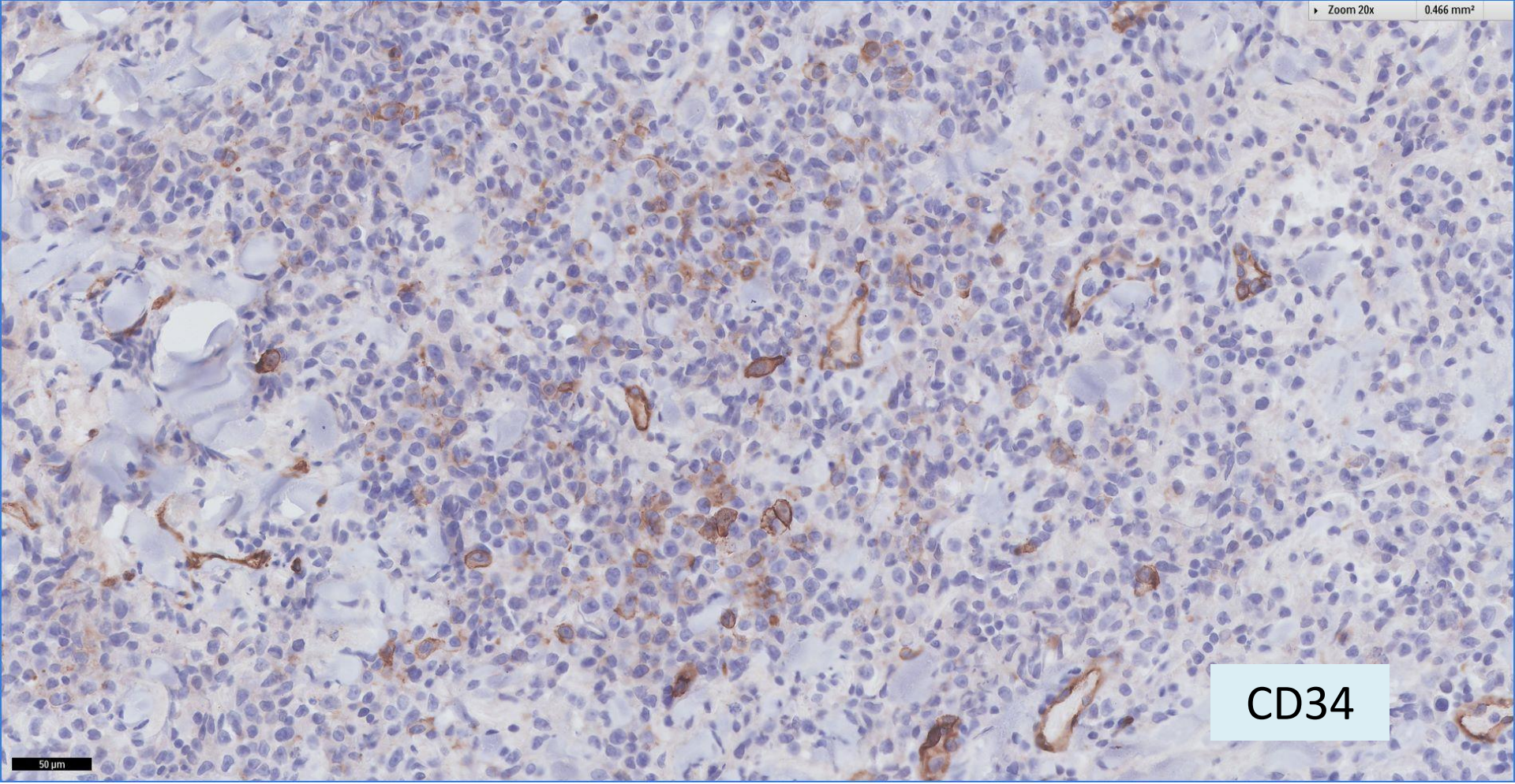


CD34

500 μ m

Zoom 20x

0.466 mm²



CD34

50 μm

Additional immunohistochemical results

- CK7 negative
- ER, PR negative



Right breast incisional biopsy:

Epithelioid angiosarcoma



Angiosarcoma

- Malignant tumour arising from endothelial cells of blood vessels.
- Synonymous with malignant haemangioendothelioma.
- Reported in:
 - Previously irradiated fields.
 - Around long-standing foreign bodies.
 - Arteriovenous fistulas.
 - Somatic type malignancy in germ cell tumours.
 - Arising from pre-existing benign tumours – haemangioma/vascular malformation, neurofibroma, intramuscular lipoma, leiomyoma.



Angiosarcoma

- Grossly highly haemorrhagic and deeply invasive.
- Microscopically varies from well differentiated (resembling benign haemangioma) to undifferentiated and solid (mimicking carcinoma, melanoma and other sarcomas).
- Diagnostic areas ~ freely anastomosing vascular channels lined by abnormal endothelial cells.



Angiosarcoma of the breast

- **Primary**, which arises in the breast parenchyma.
- **Secondary**, which develops in the skin, chest wall or breast parenchyma subsequent to surgery and postoperative radiation for breast cancer.



Primary angiosarcoma of the breast

- Rare.
- Second commonest mesenchymal malignancy in the breast, after malignant phyllodes tumour.
- Incidence of about 0.05% of all primary malignancies of the breast.



Secondary angiosarcoma of the breast

- More frequently diagnosed since the late 1980s.
- Due to increasing trend for breast-conserving surgery with more frequent use of radiation.
- Angiosarcoma is the most common radiation associated sarcoma in the breast.



Angiosarcoma

Primary

- Almost exclusively female.
- Median age 40 years.
- Clinical features:
 - Painless mass.
 - Diffuse breast enlargement.
 - May be bilateral.
- Located deep in the breast parenchyma.

Secondary

- 2 clinical settings:
 - Chest wall post-mastectomy and radiotherapy (latent period 7-10 years), older patients (60-80 years).
 - Tumour within the breast post lumpectomy and radiotherapy (latent period 5-6 years), broad age range.
- Usually involves skin, may occur in breast parenchyma.
- Often multifocal.
- Preceding or concurrent atypical vascular lesions.

Angiosarcoma

- Histopathology:
 - Well, intermediate and poorly differentiated.
(based on size of vascular channels, endothelial atypia, mitoses, multilayering)
- Differential diagnosis:
 - PASH, angiolipoma, benign vascular lesions, papillary endothelial hyperplasia, spindle cell carcinoma, other sarcomas.
 - Panel immunohistochemistry.
- Genetics:
 - Activating mutations in tyrosine kinase receptor.
 - Myc amplification in radiation induced angiosarcoma.
- ***Grade is of no prognostic value (AJSP 2008;32:1896-1904).***
- OS < 6 years.



Epithelioid angiosarcoma

- Mimics carcinoma.
- To avoid misdiagnosis, think of angiosarcoma in the following context:
 - Irradiated breast
 - Diffusely haemorrhagic mass
 - Presence of slit-like vascular spaces
 - Absence of in situ carcinoma
- Particular pitfall on core biopsy.
- Apply immunohistochemistry.



Epithelioid angiosarcoma

- Bacchi CE, Silva TR, Zambrano E, Plaza J, Suster S, Luzar B, Lamovec J, Pizzolitto S, Falconieri G. Epithelioid angiosarcoma of the skin: a study of 18 cases with emphasis on its clinicopathologic spectrum and unusual morphologic features. *Am J Surg Pathol*. 2010 Sep;34(9):1334-43.
- Muzumder S, Das P, Kumar M, Bhasker S, Sarkar C, Medhi K, Iyer VK, Rath GK. Primary epithelioid angiosarcoma of the breast masquerading as carcinoma. *Curr Oncol*. 2010 Feb;17(1):64-9.
- Brodie C, Provenzano E. Vascular proliferations of the breast. *Histopathology*. 2008 Jan;52(1):30-44.
- Fariña MC, Casado V, Renedo G, Estévez L, Martín L, Requena L. Epithelioid angiosarcoma of the breast involving the skin: a highly aggressive neoplasm readily mistaken for mammary carcinoma. *J Cutan Pathol*. 2003 Feb;30(2):152-6.



 Breast
Pathology
Course 2014

