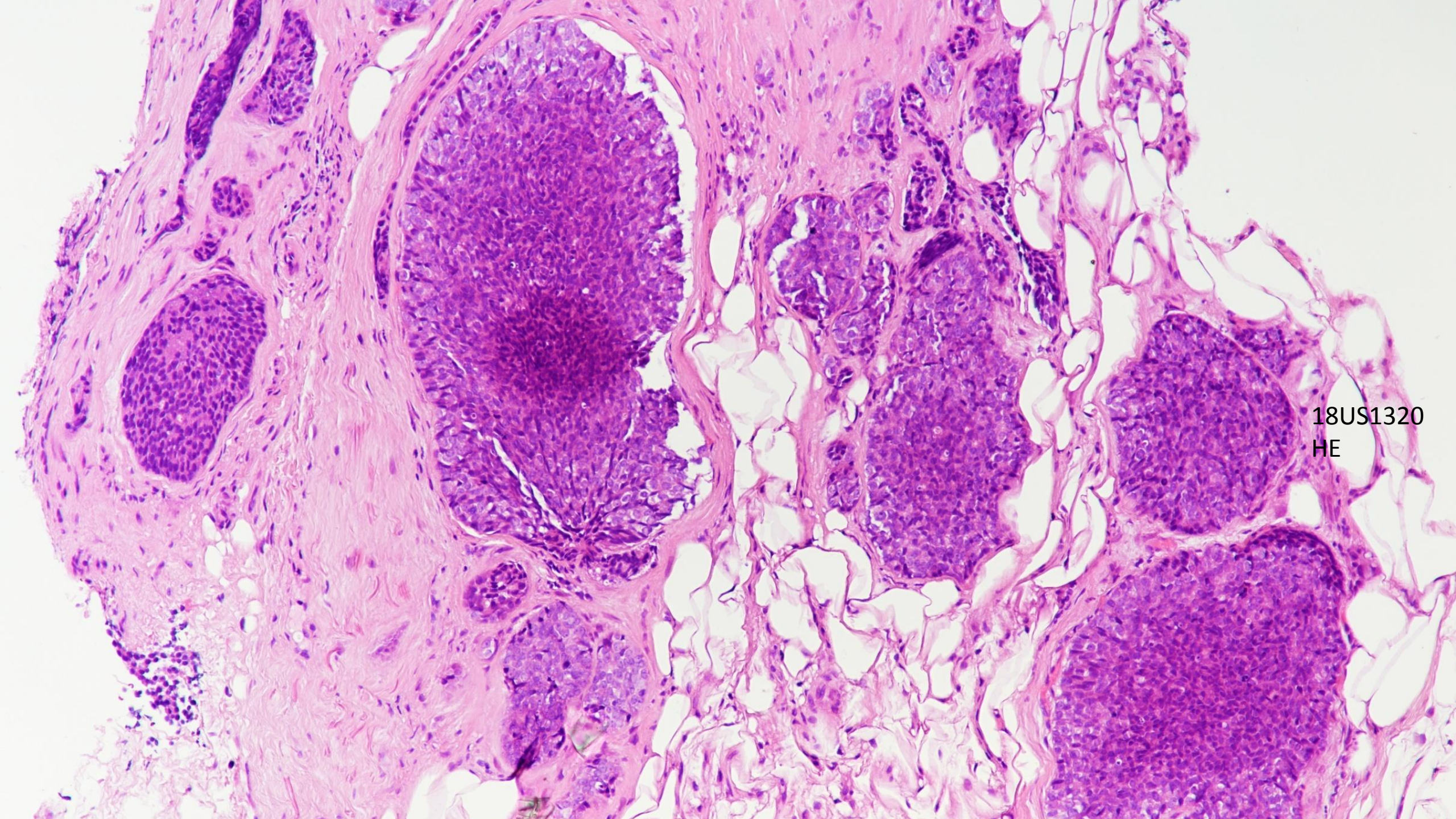
Brief clinical history case 3

- A 72 year old female, with right breast calcification and breast mass.
- Biopsy was done.
- 18US1320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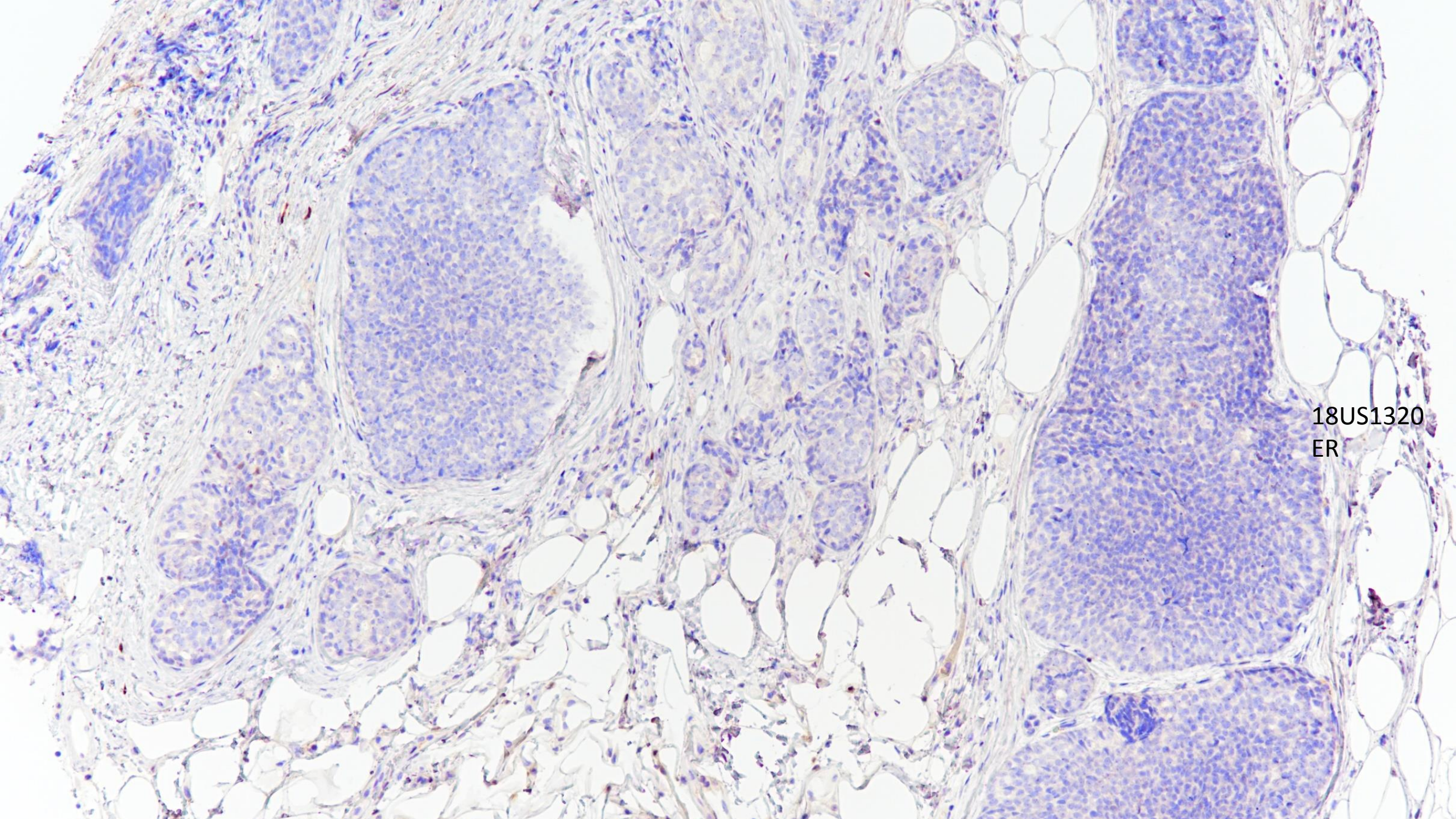
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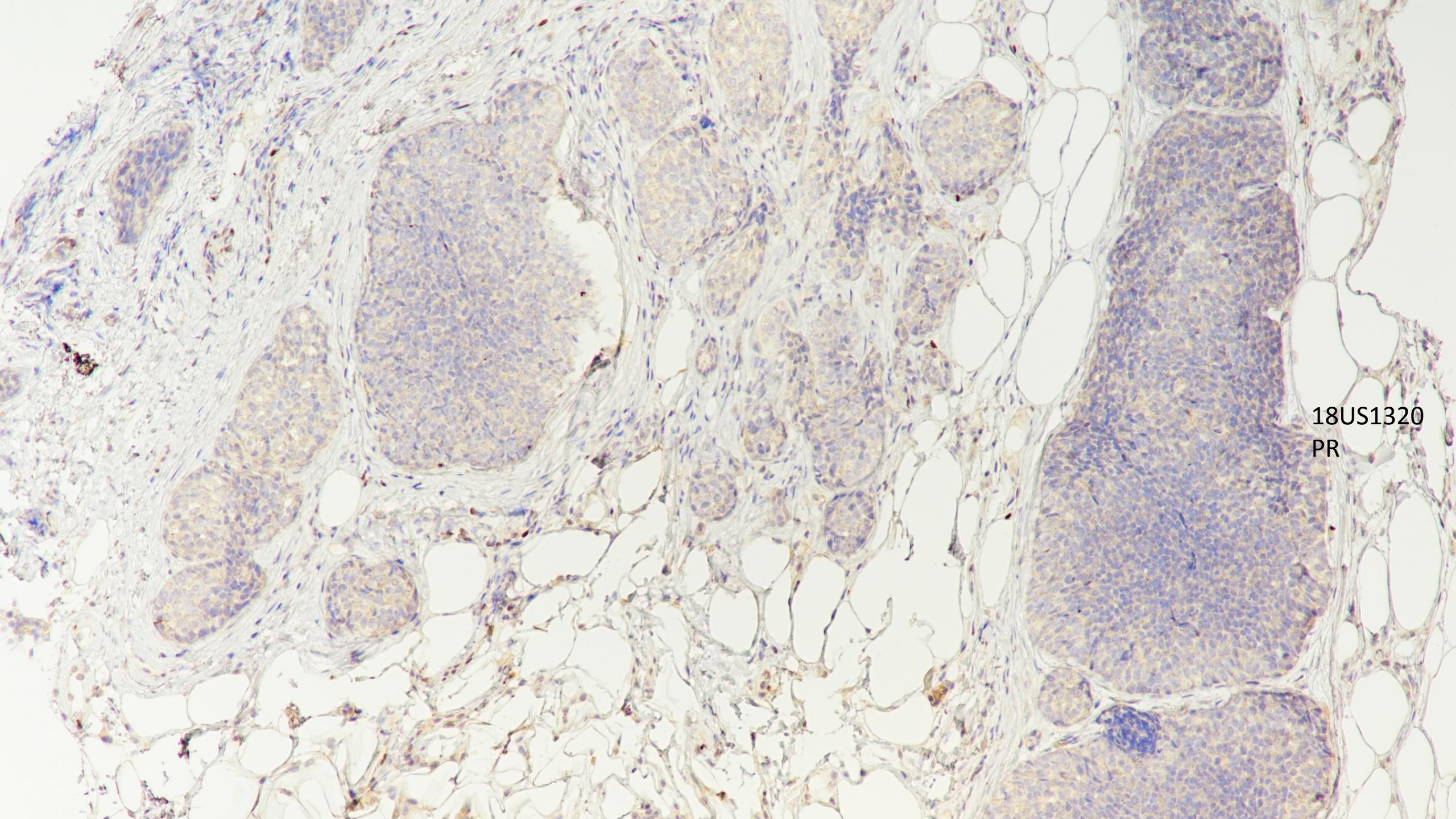
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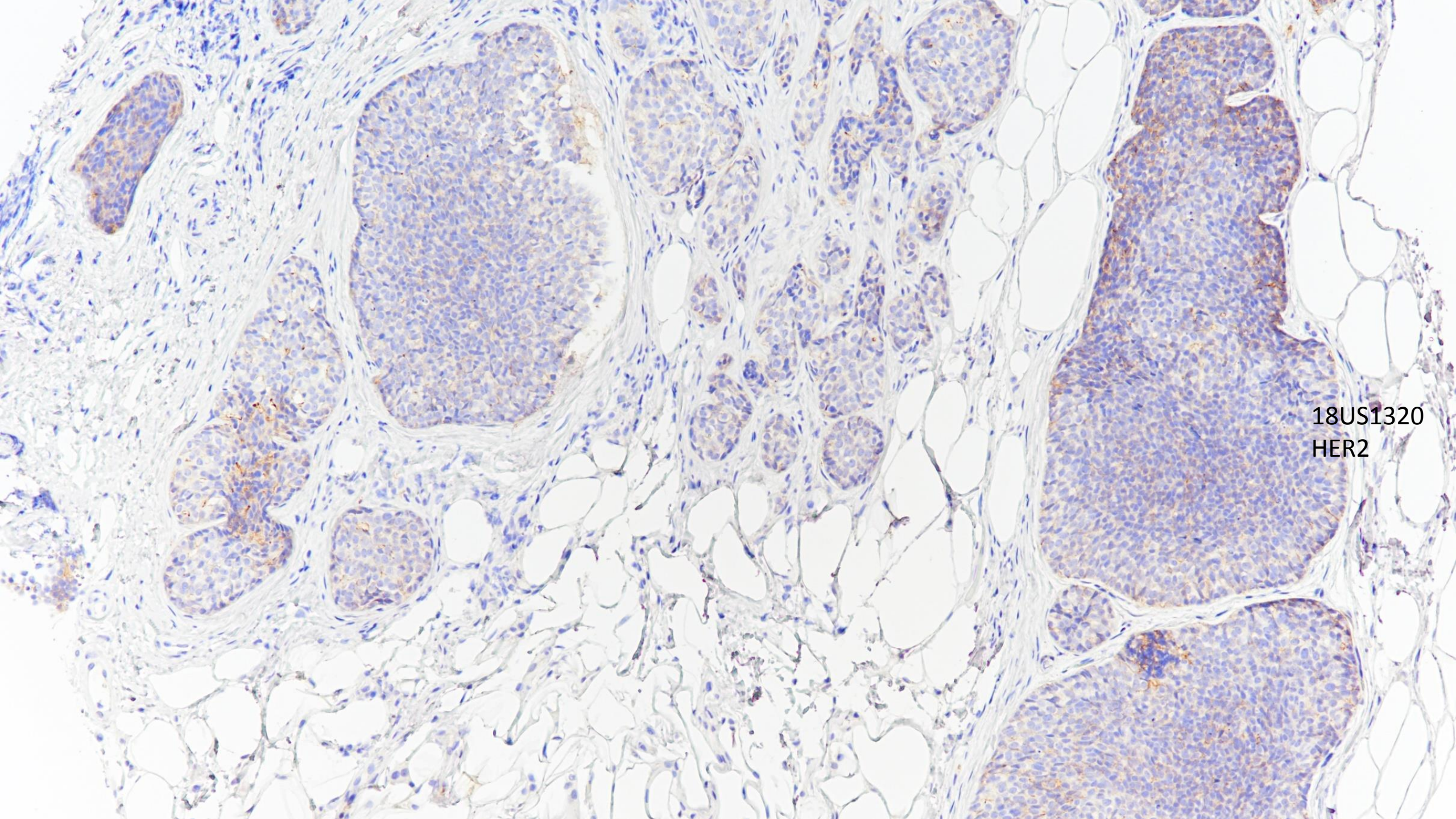
PR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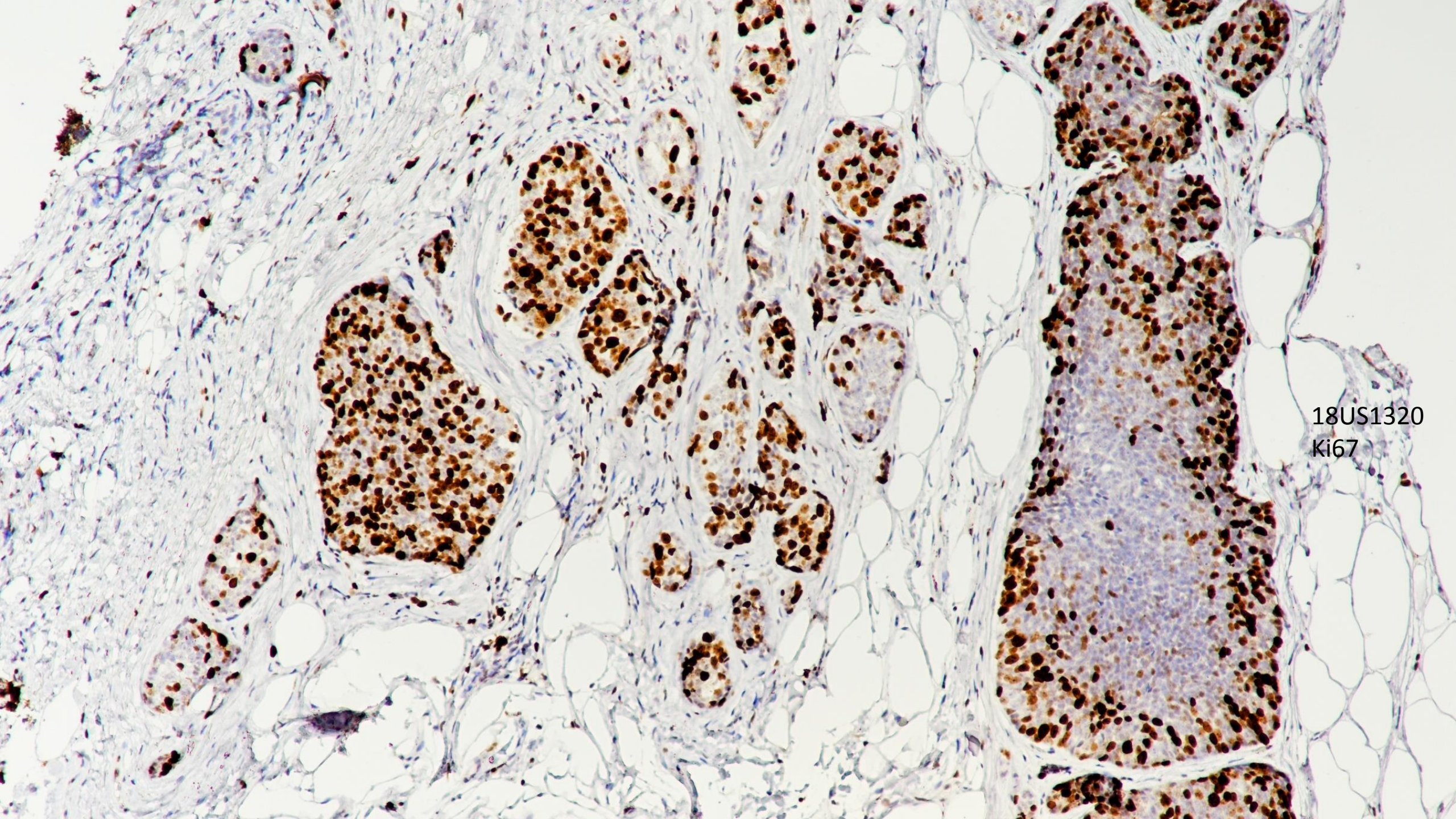
HER2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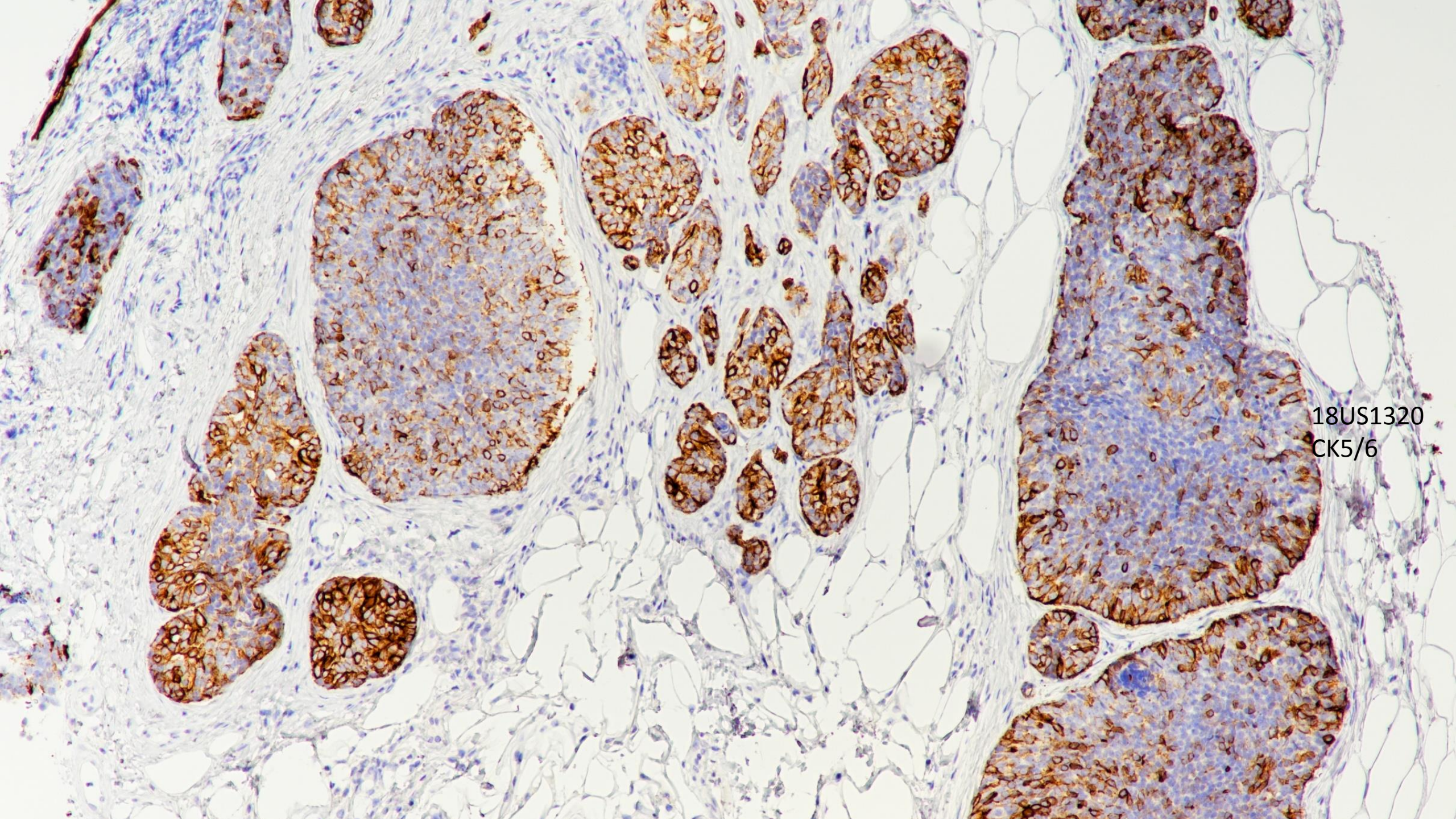
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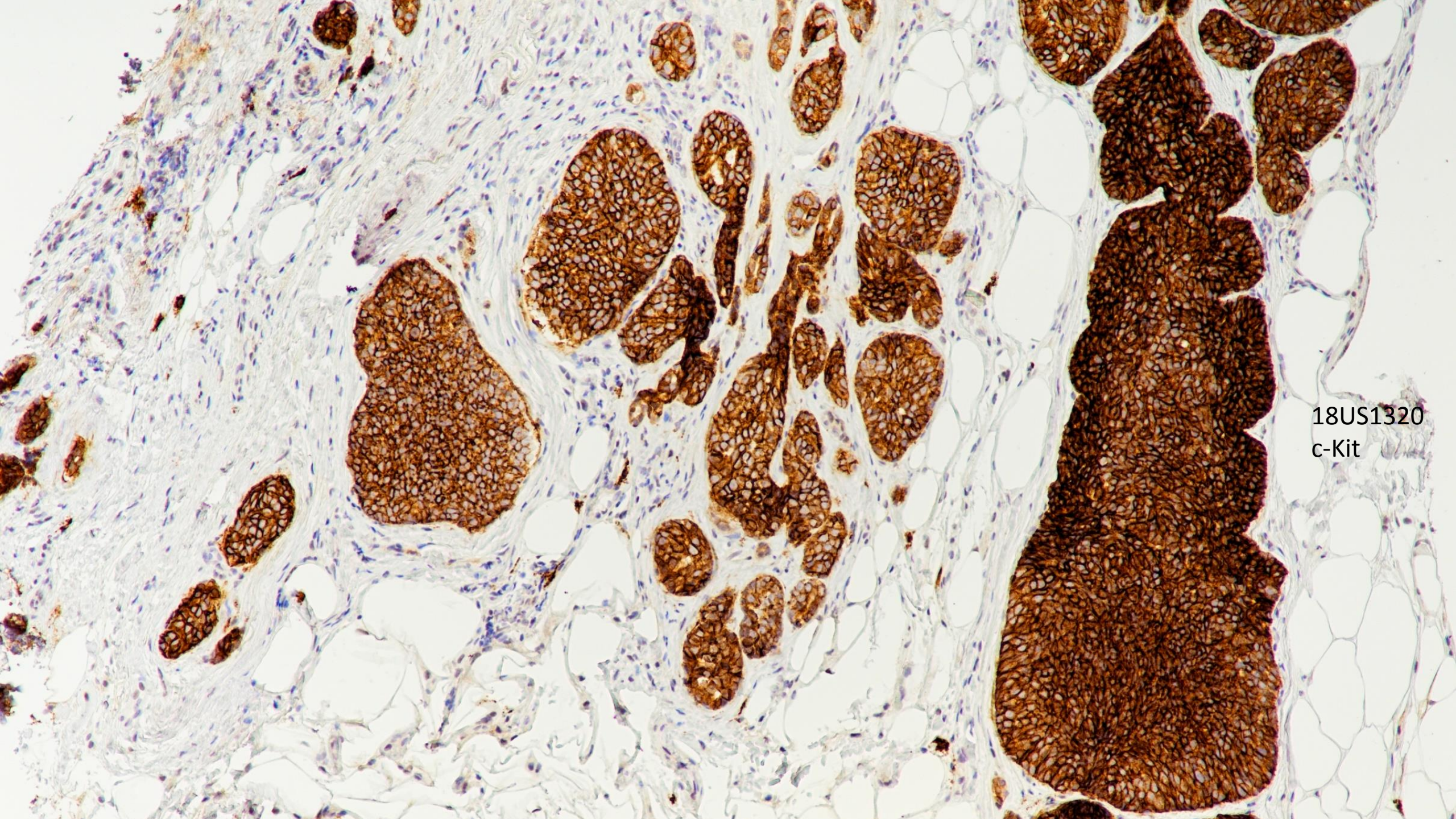
CK5/6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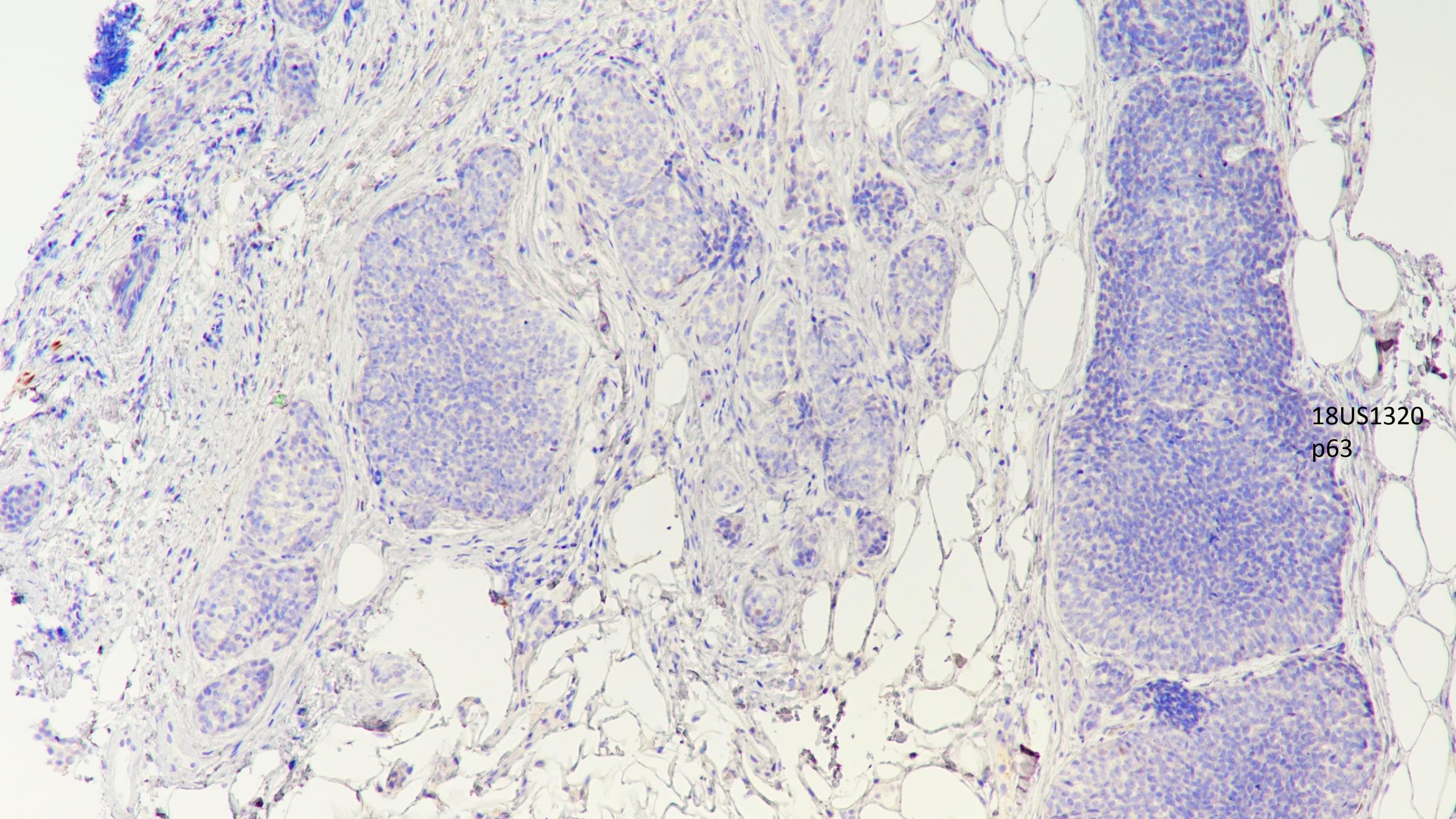
c-Kit


18US1320
p63

Adenoid cystic carcinoma

- <0.1% breast carcinoma
- Similar to other organs histologically
- Formed by epithelial and myoepithelial cell types arranged into tubular-trabecular, cribriform, and solid architecture
- Luminal cells: round nuclei and eosinophilic cytoplasm, surround true gland lumina PAS + neutral mucin
    - positive for CK7, CK8/19, CD117 but ER-, PR- and HER2-
- Basaloid cells: central oval nuclei and scant cytoplasm, and form pseudolumina (ntraluminal stromal invaginations)
    - positive for basal CK, myoepithelial cell markers, vimentin and EGFR
- Both luminal and myoepithelial cells were negative for ER, PR and HER2
- Showed gene expression profile of basal like breast cancer BUT distinct genomic aberrations
- Display recurrent t(6;9)(q22-23;p23-24) translocation which generates fusion transcripts involving MYB and NFIB genes in >90% cases
- Low grade malignant tumor generally cured by simple mastectomy

Histological types of TNBC

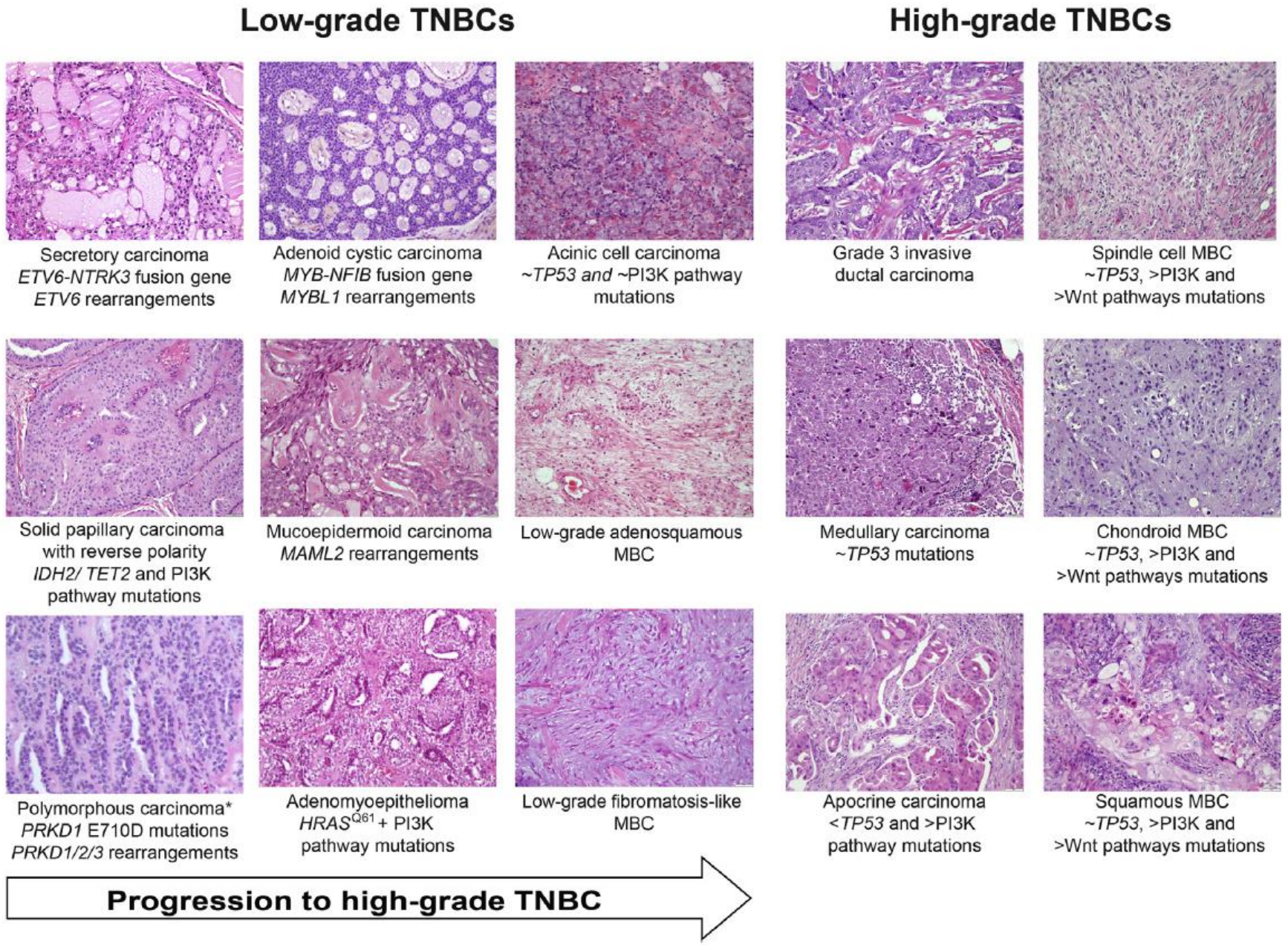


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Table 1 Reported Prevalence of ER and/or PR Positivity, HER2 Positivity, and TN Phenotype in Breast Neoplasms Consistently of or Enriched for the TN Phenotype

Neoplasm	ER and/or PR positivity, %	HER2 positivity, %	TN phenotype, %	Reference(s)
MGA and AMGA	0	0	100	7,9,10
Carcinoma with apocrine differentiation	0—24	10—55	38—90	23,24
Carcinoma with medullary features	0—14	0—27	64—100	25,26
Metaplastic breast carcinoma	3—9	3—10	85—94	27,28
Acinic cell carcinoma	0—20	0	80—100	29,30
Adenoid cystic carcinoma	0—15*	0	85—100	31,32
Secretory carcinoma	0—45*	0	65—100	33,34
Mucoepidermoid carcinoma	0	0	100	35
Low-grade fibromatosis-like metaplastic carcinoma	0	0	100	36,37
Low-grade adenosquamous carcinoma	0	0	100	38
Solid papillary carcinoma with reverse polarity	50*	0	50	39

*The cases of solid papillary carcinoma with reverse polarity, secretory carcinoma, and adenoid cystic carcinoma reported as ER-positive most often had low levels of ER expression in 1% to 10% of tumor cells.[32,39]

AMGA, atypical microglandular adenosis; ER, estrogen receptor; HER2, human epidermal growth factor receptor 2; MGA, microglandular adenosis; PR, progesterone receptor; TN, triple negative.

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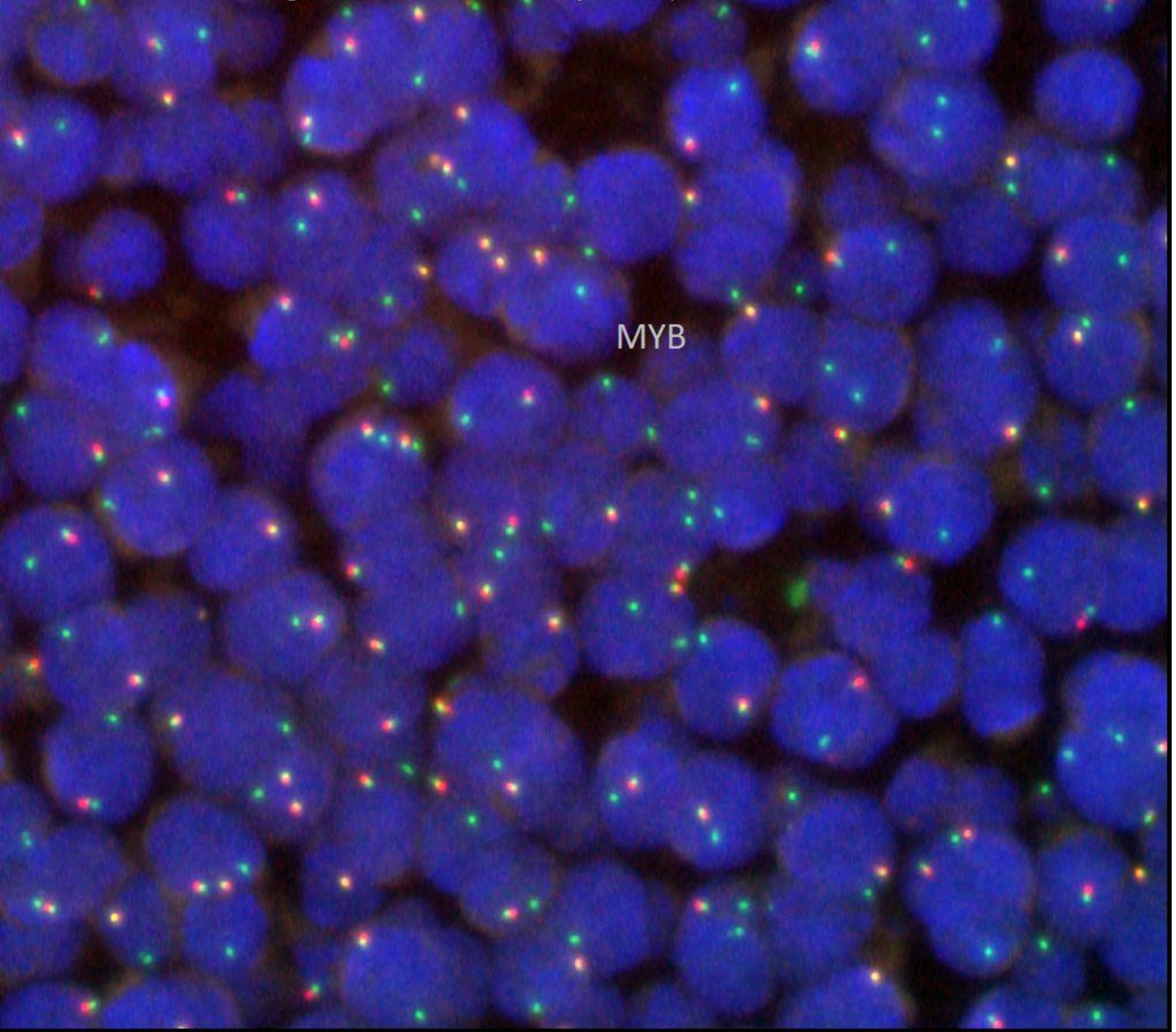

18US1776-3 for MYB break-apart FISH.

Isolated green signal (corresponding to 5’end of MYB gene) was observed in majority of nuclei.