

Markers for Gynaecopathology

GATA3 (L50-823)

390M-1x

GATA3 is an important regulator in the luminal differentiation of epithelial cells in the mammary glands and is a sensitive and specific marker for breast and urothelial carcinomas (GATA3+, nuclear staining). 100% of lobular breast carcinomas and 91% of invasive ductal carcinomas are GATA3-positive (grade I 100%, grade II 89% and grade III 86%). GATA3 is clearly more sensitive than mammaglobin and GCDPF-15. In addition, GATA3 is useful in the diagnosis of urothelial carcinomas (GATA3+), especially in invasive and poorly differentiated tumours (more sensitive than p63), and is helpful in distinguishing prostatic and renal cell carcinomas (GATA3-). Consequently, GATA3 is a valuable marker in distinguishing carcinomas of unknown primary (CUP). Literature: **Am J Clin Pathol 2015; 144:756. Cancer Cytopathol 2015; 123: 576.** Further information: [GATA3-Flyer](#).

Stathmin (SP49)

394R-1x

Stathmin is an important mitosis regulator and a multifunctional oncoprotein. Stathmin can be utilized to distinguish low-grade dysplasia (CIN1) from high-grade dysplasia and cervical squamous carcinoma (CIN2/3, **Am J Surg Pathol 2013; 37:89**). This distinction is very important as the current standard, p16, is unable to differentiate the different types of CIN since it stains all dysplasia equally.

Anti-stathmin is best used in a panel with p16, Ki-67, and cytokeratin 17 for dysplasia and atypical immature metaplasia (AIM) differentiation. Further information: [Stathmin-Flyer](#).

TFF3 (EP107)

AC-0103

Recently published data indicate that Trefoil Factor 3 (TFF3) is an important predictive marker for the endocrine responsiveness of breast carcinomas, yielding additional information to that provided by estrogen receptor (ER) and progesterone receptor (PR, PgR) (**Endocr Relat Cancer 2015; 22: 465**). Not all ER-positive breast carcinomas respond permanently to endocrine therapy. Biomarkers may help to identify women who either benefit from more regular and frequent follow-up or who have a very favourable prognosis (decision against chemotherapy where there is a low risk of recurrence). In this setting the degree of Ki-67 expression (proliferation index; distinguishing luminal A vs. B) and the coexpression of GATA3, FoxA1, TFF1 (pS2) and TFF3 (intestinal trefoil factor) appear to play a major role. Further information: [TFF3-Flyer](#).

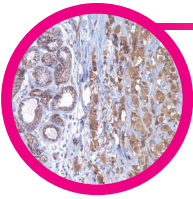
TFF3 staining (clone EP107) of breast carcinoma with kind permission of Haiyan Liu, MD, Geisinger Medical Laboratories.

Weblink: <https://www.geisingermedicallabs.com/lab/ihc.cfm>



p120 Catenin (MRQ-5)

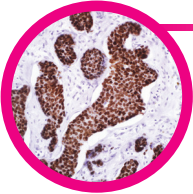
420M-1x



p120 catenin is a component of the E-cadherin/catenin adhesion complex and a positive marker for lobular carcinomas of the breast. Lobular carcinomas are characterised by loss of E-cadherin, leading to intracytoplasmic accumulation of p120 catenin (cytoplasmic staining pattern). In contrast, ductal carcinomas show a membranous staining pattern for E-cadherin and p120 catenin (**Am J Surg Pathol 2007; 31: 427**). In gastric and colorectal carcinomas strong cytoplasmic p120 staining is associated with discohesive and infiltrative cell morphology. Further information: [p120 Catenin-Flyer](#).

Estrogen Receptor (EP1)

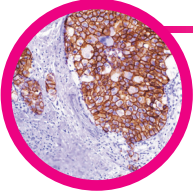
249R-2x



The estrogen receptor is a predictive nuclear marker used to determine the endocrine responsiveness of carcinomas of the breast. The EP1 clone has acquitted itself with good results in inter-laboratory comparisons, and in published studies it has been shown to be comparable with the rabbit monoclonal SP1. Literature: **Appl Immunohistochem Mol Morphol 2014; 22: 613. J Clin Pathol 2013; 66: 1051.**

Her2/neu (EP3)

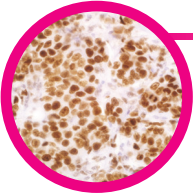
273R-2x



The EP3 clone is a new rabbit monoclonal against Her2/neu (synonyms: ErbB2; growth factor receptor of the EGFR/erbB protein family). Her2 is used alongside ER, PR and Ki-67 for subtyping of carcinomas of the breast and for the semiquantitative determination of Her2 overexpression.

EZH2 (11)

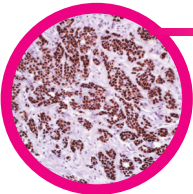
415M-1x



The histone methyltransferase EZH2 is the catalytic subunit of Polycomb Repressive Complex 2 (PRC2) and plays a crucial role in the transcriptional repression of important tumour suppressor genes. Overexpression of EZH2 (or mutation-induced hyper-activation of EZH2) is encountered in a variety of solid tumours. EZH2 overexpression is frequently associated with an aggressive phenotype, metastasis formation, therapy resistance and a poor prognosis (**Epigenetics 2013; 8: 464. Epigenomics 2014; 6: 341**). Further information: [EZH2-Flyer](#).

FoxA1 (2F83)

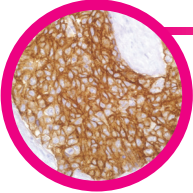
405M-1x



FoxA1 is a helpful marker for the subclassification of breast carcinomas (luminal A). FoxA1 expression is a good prognostic indicator in hormone receptor-positive breast carcinomas (**J Clin Pathol 2008; 61: 327. Ann Surg Oncol 2012; 19: 1145. Breast Cancer Res Treat 2012; 131: 881**) and is associated with a low Oncotype DX Recurrence Score (**Mod Pathol 2010; 23: 270**). Recent results have shown that ER α , GATA3 and FoxA1 belong to a transcriptional network that characterises the phenotype of endocrine-responsive tumours (**Nature Commun 2013; 4: 2464**). Further information: [FoxA1-Flyer](#).

EGFR (SP84)

414R-1x



EGFR is also known as c-erbB-1 and Her1 (EGFR/erbB protein family Her1, Her2, Her3, Her4). Together with cytokeratin 5, EGFR is used for the identification of triple-negative breast carcinomas (TNBC) with a basal phenotype. The rabbit monoclonal SP84 is characterised by robust staining properties following heat-induced epitope unmasking (no necessity for proteolytic pre-treatment of tissue).

Literature:

Lin H. Breast. In: Lin F and Pritchard J (eds). Handbook of Practical Immunohistochemistry, 2nd edition. Springer New York, 2015, pp 183-215, Chapter 13.

An overview of all antibodies available can be found at www.medac-diagnostika.de under Information, Immunohistochemistry, Catalogues.