



## PRODUCT FOCUS -- Prognostic and predictive biomarkers in cancer

**Prognostic and predictive immunohistochemistry (IHC) biomarkers** play a pivotal role in guiding cancer treatment and assessing patient outcomes. Prognostic markers reveal disease aggression and survival odds, regardless of therapy, while predictive markers indicate likely responses to specific treatments. Together, they enable personalized therapy, optimizing therapeutic benefits and minimizing adverse effects. By supporting accurate classification and guiding clinical decisions, IHC biomarkers improve patient outcomes and help tailor treatments, ultimately increasing survival and quality of life for those with cancer.

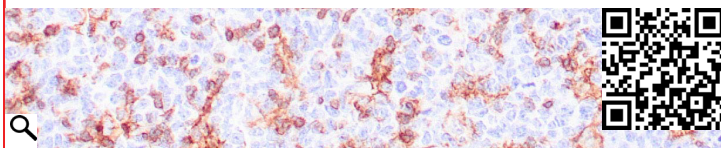
## Predictive Prognosis

### Positive for good prognosis (BCLL)

#### **CD11c (clone ZM103) IVD**

High expression of CD11c in certain cancers is generally associated with a better prognosis, i.e. gastric cancer, ovarian cancer and B-cell chronic lymphocytic leukemia (BCLL).

Mouse Monoclonal, recombinant Cat#: **Z2414**



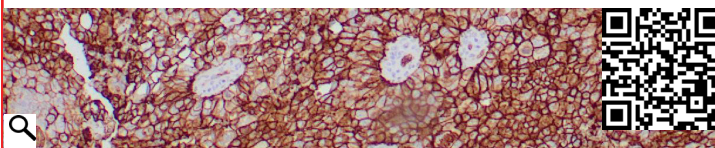
IHC: Human tonsil stained with ZM103

### Positive for malignancy in various cancers

#### **GLUT1 (clone ZR308) IVD**

GLUT1 is expressed in normal tissues, however it is often overexpressed in cancerous cells, and this overexpression is linked to tumor progression, metastasis, and poorer patient outcomes in various cancers.

Rabbit Monoclonal, recombinant Cat#: **Z2585**



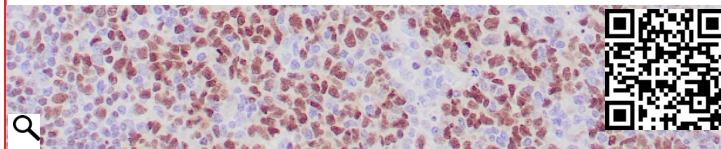
IHC: Human breast carcinoma stained with ZR308

### Positive for good prognosis (lymphoma)

#### **LMO-2 (clone ZR87) IVD**

LMO-2 expression can be a good prognostic marker, particularly in Diffuse Large B Cell Lymphoma (DLBCL). High expression of LMO-2 protein is associated with longer survival in DLBCL patients treated with R-CHOP therapy.

Rabbit Monoclonal, recombinant Cat#: **Z2397**



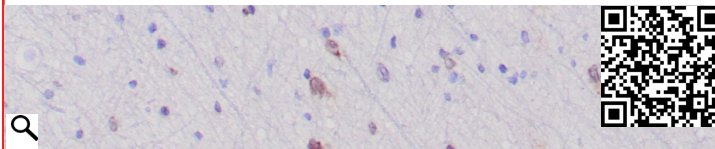
IHC: Human lymph node stained with ZR87

### Positive for good prognosis (glioma)

#### **IDH1 (R132H) (clone ZR7) IVD**

In glioma, the presence of an IDH1 mutation is generally associated with a better prognosis compared to gliomas with the normal, or wild-type, IDH1 gene. Patients often experience longer overall survival and progression-free survival.

Rabbit Monoclonal, recombinant Cat#: **Z2010**



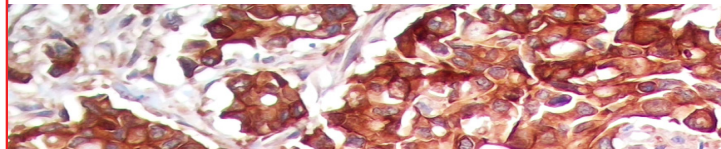
IHC: Human glioma stained with ZR7

### Positive for poor prognosis (NSCLC)

#### **c-MET (clone ZR478) << COMING SOON >>**

In Non-Small Cell Lung Cancer (NSCLC), c-MET overexpression and amplification detected by immunohistochemistry (IHC) are considered poor prognostic markers, indicating a worse clinical outcome.

Rabbit Monoclonal, recombinant Cat#: **Z2848**



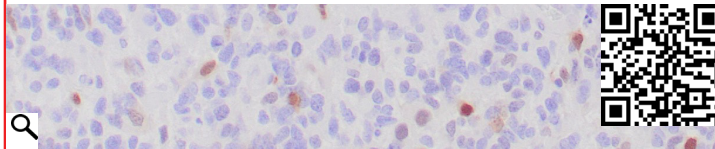
IHC: Human colon carcinoma stained with ZR478

### Predictor of response to glioma chemotherapy

#### **MGMT (clone ZM314) IVD**

MGMT promoter methylation is a recognized biomarker in gliomas, particularly glioblastoma (GBM). It's used to predict a patient's response to certain chemotherapy treatments, such as alkylating agents like temozolomide.

Mouse Monoclonal, recombinant Cat#: **Z2618**



IHC: Human glioma stained with ZM314

# Grade of Malignancy

## Positive for malignant urothelial carcinoma

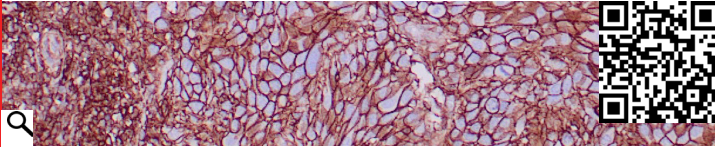
### CD44 (clone ZR184)

IVD

CD44 can be positive in urothelial carcinoma, but its pattern varies: Strong in low-grade tumors (similar to the basal layers). Reduced or lost in high-grade, invasive tumors.

Rabbit Monoclonal, recombinant

Cat#: **Z2679**



IHC: Human squamous cell carcinoma stained with ZR184

## Malignant melanocytic lesions

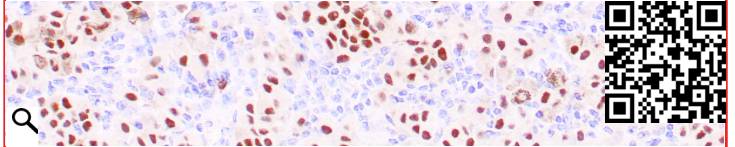
### PRAME (clone ZR383)

IVD; RUO(EU)

PRAME is a valuable IHC marker for malignant melanocytic lesions. Highly specific for melanoma versus benign nevi. It is best used in conjunction with other markers and clinical/histopathological information.

Rabbit Monoclonal, recombinant

Cat#: **Z2674**



IHC: Liver with metastatic melanoma stained with ZR383

<< COMING SOON >>

### Melanoma Cocktail, double stain IVD

(PRAME clone ZR383 + S100 clone 4C4.9) Cat#: **Z2838**

This 2-antibody cocktail is used for differential diagnosis of melanocytic lesions. The combination of PRAME (red) and S-100 (brown) immunohistochemical staining will help in differentiating malignant melanoma and atypical nevus (PRAME positive, S-100 positive) from benign nevus (PRAME negative, S-100 positive). **STAY TUNED!**

## Positive for malignant thyroid cancer

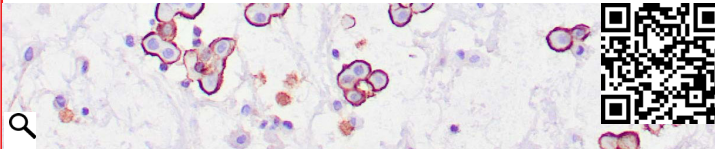
### HBME1 (clone HBME-1)

IVD

HBME-1 is not a thyroid-specific marker, but its expression is highly associated with malignant thyroid carcinomas, especially papillary and follicular types. It is used in a panel to help distinguish malignant from benign thyroid lesions.

Mouse Monoclonal

Cat#: **Z2233**



IHC: Human mesothelioma stained with HBME-1

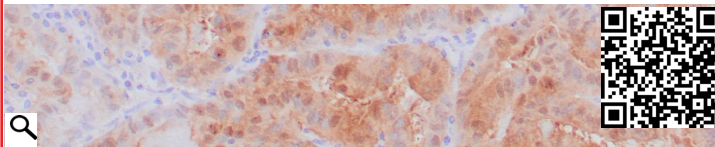
### Galectin-3 (clone ZR430)

IVD; RUO(EU)

Galectin-3 IHC is often positive in malignant thyroid cancers. It is generally negative or only faintly expressed in benign thyroid lesions making it a useful marker to help differentiate malignant from benign thyroid lesions.

Rabbit Monoclonal, recombinant

Cat#: **Z2786**



IHC: Thyroid papillary carcinoma stained with ZR430

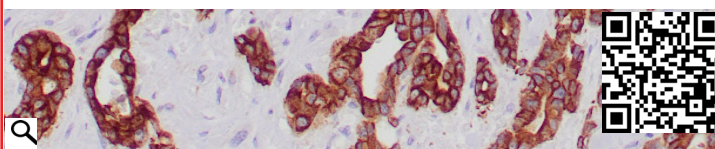
### CK19 (clone ZR143)

IVD

CK19 (Cytokeratin 19) is typically positive in malignant thyroid cancers, especially in papillary thyroid carcinoma (PTC). It is one of the most commonly used immunohistochemical markers for thyroid malignancy.

Rabbit Monoclonal, recombinant

Cat#: **Z2688**



IHC: Pancreatic ductal carcinoma stained with ZR143

## Higher for malignancy

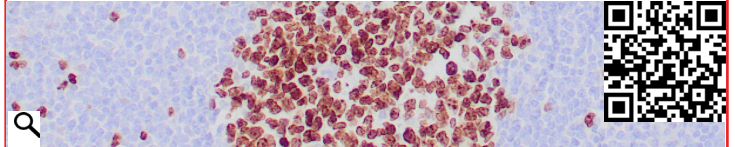
### Ki-67 (clone ZR433)

IVD; RUO(EU)

The fraction of Ki-67-positive cells is an estimate of tissue growth rate. Benign lesions: low Ki-67 labeling (<5-10%). Malignant tumors: frequently have a higher Ki-67 index-often >20-30%, indicating rapid growth and higher aggressiveness.

Rabbit Monoclonal, recombinant

Cat#: **Z2789**



IHC: Human tonsil stained with ZR433

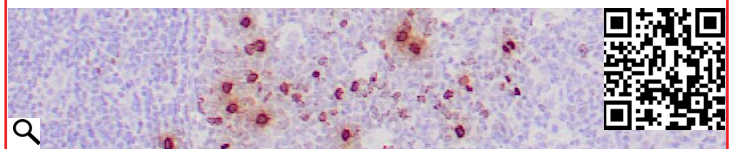
### PHH3 (clone ZR285)

IVD

PHH3 is a mitosis marker and malignant tumors generally have a higher mitotic rate. PHH3 IHC helps pathologists distinguish between benign, atypical, and high-grade malignancies.

Rabbit Monoclonal, recombinant

Cat#: **Z2600**



IHC: Human tonsil stained with ZR285

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# Related to Good Prognosis or Drug Therapy

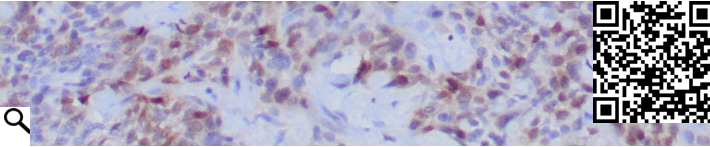
## Positive for 5-FU response.

### Thymidylate Synthase (clone ZR245) IVD

TS is involved in DNA synthesis and repair, and a relevant biomarker in many cancers (especially colorectal, gastric, and lung cancers). Frequently predicts resistance to 5-fluorouracil (5-FU) and other TS-targeted chemotherapeutics.

Rabbit Monoclonal, recombinant

Cat#: **Z2719**



IHC: Human urothelial carcinoma stained with ZR245

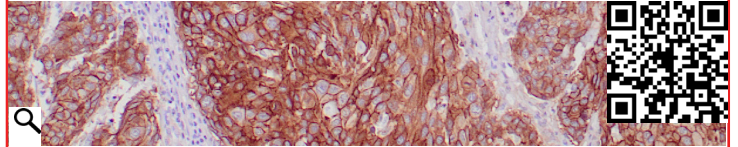
## Lung adenocarcinoma

### EGFR (clone ZR16) IVD

EGFR (EGF Receptor) is an important IHC marker where high levels are found in squamous cell carcinoma and in adenocarcinomas. Targeted therapy can be associated with a relatively better prognosis in treated patients.

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Cat#: **Z2743**



IHC: Lung squamous cell carcinoma stained with ZR16

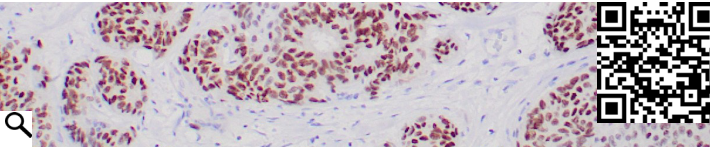
## Breast cancer

### Estrogen Receptor (clone ZR147) ASR/IVD

ER positivity in cancer is generally associated with a better prognosis, especially in breast cancer. ER receptors on tumor cells means the cancer can respond to hormonal (endocrine) therapy (e.g., tamoxifen, aromatase inhibitors).

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Cat#: **Z2233**



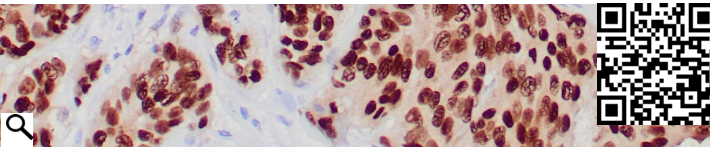
IHC: Human Human breast carcinoma stained with ZR147

### Progesterone Receptor (clone ZR290) ASR/IVD

PR is a cancer marker, especially in breast cancer, and its presence is generally associated with a better prognosis. PR+ indicates a tumor is hormonally responsive (like ER) making it more likely to respond to hormonal treatments.

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Cat#: **Z2728**



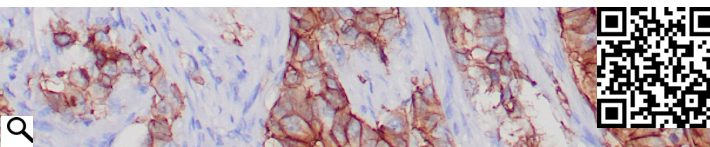
IHC: Human breast carcinoma stained with ZR290

### Her-2/Neu (clone ZR218) ASR/RUO

HER2, when overexpressed, is a marker for certain cancers, i.e. breast- and gastric cancer. It's typically associated with more aggressive disease and higher likelihood of recurrence, with poor prognosis if no targeted therapy is used.

Rabbit Monoclonal, recombinant

Cat#: **Z2499**



IHC: Breast infiltrating ductal carcinoma stained with ZR218

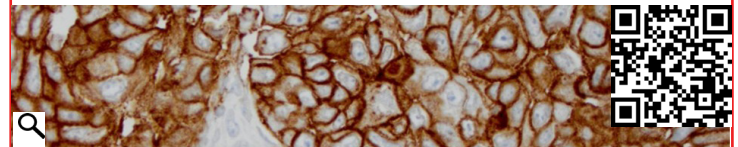
## Lung carcinoma

### PD-L1 (clone ZR3) IVD

PD-L1 predicts better response to immunotherapy (e.g., checkpoint inhibitors – pembrolizumab, nivolumab, or atezolizumab). Thus PD-L1 can be considered a favorable predictive biomarker for immunotherapy efficacy.

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Cat#: **Z2002**



IHC: Human lung adenocarcinoma stained with ZR3

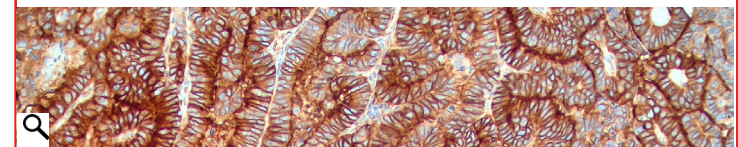
## Ovarian serous carcinoma

### FOLR1 (clone ZR480) << COMING SOON >>

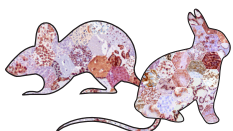
FOLR1 is highly expressed in most high-grade serous ovarian carcinomas. As a diagnostic marker it is primarily used to select patients for targeted treatments such as mirvetuximab soravtansine can indicate potential therapeutic success.

Rabbit Monoclonal, recombinant

Cat#: **Z2850**



IHC: Ovarian serous carcinoma stained with ZR480



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