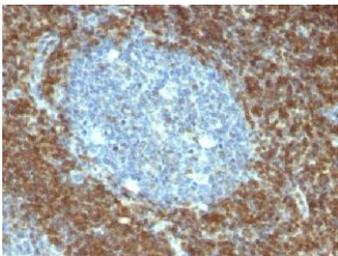


Breast Cancer Markers

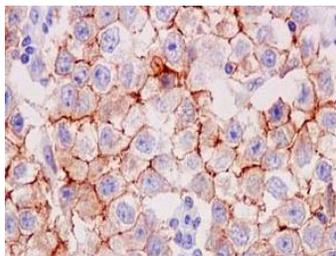


Breast cancer is the 2nd most common cancer in the world and, the most frequent cancer among women with an estimated 1.67 million new cancer cases diagnosed in 2012 (25% of all cancers). Incidence rates vary nearly four-fold across the world regions, with rates ranging from 27 per 100,000 in Middle Africa and Eastern Asia to 92 in Northern America. It ranks as the 5th cause of death from cancer overall (522,000 deaths), the most frequent cause of cancer death in women in less developed regions (324,000 deaths, 14.3% of total), the second cause of cancer death in more developed regions (198,000 deaths, 15.4%) after lung cancer.

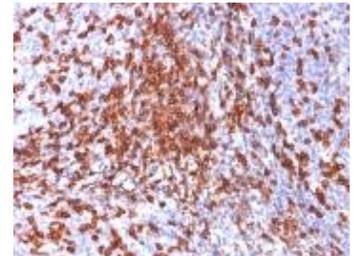
GLOBOCAN database



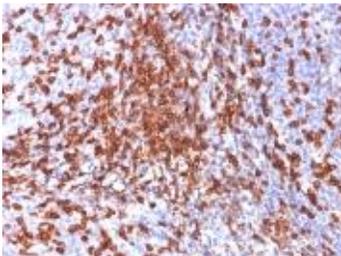
FFPE human tonsil stained with anti-Bcl-2 [BCL2/796]



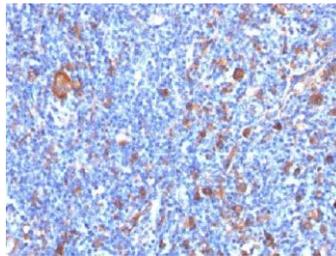
FFPE human seminoma stained with anti-CD117 [YR145]



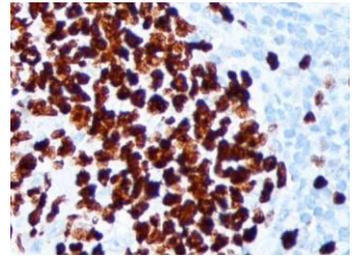
FFPE human breast cancer stained with CD44 [156-3C11]



FFPE human cervical ca stained with anti-c-Myc [MYC275+909]



FFPE human Hodgkin's lymphoma stained with anti-Fascin [FSCN1/417]



FFPE human tonsil stained with anti-Ki67 [MIB-1]

Breast Cancer Markers

Name	Cat. No.	Application
ABCG2/BCRP [BXP-21]	MC0582	Considered as one of three major transporters causing drug resistance
Actin Smooth Muscle [1A4]	MC0004	Myoepithelial marker for detection of invasive carcinoma
Adiponectin [ADPN/1370]	MC0138	Low circulating adiponectin levels associated with an increased breast cancer risk
Annexin A1 [EH17a]	MC0481	Upregulated Annexin A1 promotes cellular invasion in triple-negative breast cancer
Annexin A1 Polyclonal	RC0315	
Anterior Grad 2 [EP329]	RM0352	Positive staining in ER+ breast cancers associated with poorer survival
AR [EP120]	RM0004	Absence associated with higher histological grade, development of recurrence and distant metastasis
AR [SP107]	RM0218	
BCA-225 [Cu-18]	MC0501	Can be used to differentiate breast ca. from benign or malignant colonic, stomach, prostate, liver, pancreas, thyroid, or parotid tissues
Bcl-2 [BCL2/796]	MC0617	Overexpression can indicate poor prognosis of breast tumors; useful to differentiate Luminal A (more +) vs Luminal B (-)
Bcl-2 [EP36]	RM0006	
BRCA1 Protein [MS110]	MC0504	Loss of BRCA-1 nuclear expression or mutation indicates poor prognosis of breast cancer
BRCA1 Assoc Pro [C4]	MC0136	
CA125/MUC16 [EP48]	RM0011	Over expressed in breast cancer
CA19-9 [121SLE]	MC0506	Useful to differentiate infiltrating ductal (-) vs adenoid cystic (+) ca
Cadherin-E [CDH1/1525]	MC0165	Useful for characterization of ductal (+) vs lobular (-) carcinoma; negative expression of E-Cadherin associated with higher histological grade and development of metastasis
Cadherin-E [EP6]	RM0088	
Calponin [CALP]	MC0033	Myoepithelial marker for detection of invasive carcinoma
Calponin [EP63]	RM0015	
Catenin Beta [EP35]	RM0008	Low expression may correlate with a poor outcome; useful to differentiate Luminal A (more +) vs Luminal B (-)
Cathepsin D [EP81]	RM0017	Potential prognostic indicator
CD10 [56C6]	MC0277	Myoepithelial marker for detection of invasive carcinoma
CD10 [SP67]	RM0224	
CD117/c-Kit [EP10]	RM0067	Useful to differentiate infiltrating ductal (-) vs adenoid cystic (+) ca
CD117/c-Kit [YR145]	RM0226	
CD44 [156-3C11]	MC0666	Useful to differentiate infiltrating ductal (+) vs adenoid cystic (-) ca
CD44 [EP44]	RM0044	
CK [AE1&AE3]	MC0115	A panel of AE1&AE3(-), CAM5.2(-), CK7(-), p63(+) is useful to differentiate metaplastic ca. of breast from myofibroblastoma and PT
CK [CAM 5.2]	MC0526	
CK14 [EP61]	RM0075	Basal phenotype defined by the expression of CK5/6 or CK14 associated with development of recurrence and increased mortality from breast cancer
CK14 [LL002]	MC0111	

Breast Cancer Markers

Name	Cat. No.	Application
CD138 [B-A38]	MC0510	Used to identify differentiated plasma cells, multiple myeloma, and subclassification of diffuse large B-cell
CD138 [EP201]	RM0023	
CD14 [EP128]	RM0024	Used as a differentiation marker for monocytes/macrophages, labels Langerhans' cells and dendritic cells
CD15 [Carb-3]	MC0287	Used to identify Chronic Myelogenous Leukemia, mononuclear Hodgkin's cells and Reed-Sternberg cells in Hodgkin's lymphoma
CD15 [EP273]	RM0282	
CD16 [SP175]	RM0228	Useful to differentiate hepatosplenic gamma delta T-cell lymphoma and gamma delta T-cell large granular lymphocyte leukemia from other peripheral T-cell lymphomas, such as mucosal and cutaneous gamma delta T-cell lymphoma
CD163 [EP324]	RM0027	Might be used for identifying tumors of monocytic origin
CD19 [SP110]	RM0230	A pan B cell marker expressed in a wide range of maturational stages including pre B cells, found in the majority of B cell-derived malignancies
CD1a [EP80]	RM0029	Used for identification of Langerhans Cell Histiocytosis, thymoma, precursor T-lymphoblastic leukemia/lymphoma
CD1a [O10]	MC0278	
CD2 [EP222]	RM0283	A pan T-cell marker, Useful for identification of precursor and mature T-cell lymphomas. Aberrant loss of CD2 in T-cell lymphomas may help to distinguish them from reactive T-cell proliferations
CD20 (B Cell) [L26]	MC0056	Used to identify B lymphocyte
CD20 (B Cell) [EP7]	RM0030	
CD21 [EP64]	RM0032	Used to identify follicular lymphoma, follicular dendritic cells, mature B cells and angioimmunoblastic T-cell lymphoma
CD22 [SP104]	RM0231	Expressed in B lymphocytes and hairy cell leukemia
CD23 [EP75]	RM0033	Used to identify both normal B cells and malignant lymphomas such as B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma
CD23 [HD50]	MC0158	
CD235a [GYPA/280]	MC0651	strongly labels normal erythroid cells at all stages of differentiation from the erythroblast to the mature red cell and does not react with glycoprotein B
CD25 [EP218]	RM0034	Used to distinguish neoplastic mast cell aggregates from reactive proliferations. It is a minor criterion for the diagnosis of bone marrow involvement in systemic mastocytosis (SM)
CD3 [EP41]	RM0035	Used to identify T- and NK-cell lymphomas and mycosis fungoides
CD3 Delta [EP177]	RM0041	

Breast Cancer Markers

Name	Cat. No.	Application
CK20 [EP23]	RM0080	Expression more prevalent in adenoca. originated in the GI tract than that of pulmonary or breast origin, may be used for differentiation purpose
CK20 [KRT20/1993]	MC0174	
CK20 [Ks20.8]	MC0114	
CK5 [EP42]	RM0083	Basal phenotype defined by the expression of CK5/6 or CK14 associated with development of recurrence and increased mortality from breast cancer
CK5/6 [D5/16B4]	MC0327	
CK6 [EP67]	RM0084	
CK6 [LHK6]	MC0750	
CK7 [EP16]	RM0085	Often used in conjunction with CK20 and CDX-2 to distinguish pulmonary, ovarian and breast carcinomas (CK7+) from most colon carcinomas (CK7-)
CK7 [OV-TL12/30]	MC0754	
CK8 [35BH11]	MC0755	Assists in the identification of adenocarcinoma
CK8 [EP17]	RM0086	
CK8/18 [EP17/EP30]	RM0066	
CK8/18 [K8.8&DC10]	MC0764	
CK Acid [AE1]	MC0120	Suited to distinguish poorly differentiated carcinomas from non-epithelial neoplasms
CK Basic [AE3]	MC0119	Stains most epithelia and their neoplasms; used to identify neoplasms derived from epithelium
CK HMW [34BE12]	MC0328	Useful for characterization of ductal (+) vs lobular (-) carcinoma
Claudin 5 [EP224]	RM0068	May play a role in the metastasis and progression of breast cancer
COX2 [EP293]	RM0362	Elevated expressed in breast ca. and associated with poor prognosis and decreased survival in patients with breast cancer
COX2 [SP21]	RM0200	
Cyclin D1 [DCS-6]	MC0732	Overexpression in breast carcinoma can indicate malignant transformation
Cyclin D1 [EP12]	RM0071	
EGFR (E746-A750 del)	RM0408	Expression associated with poor prognosis in several types of tumors including breast cancer
EGFR (L858R) [MD27R]	RM0330	Presented in some triple negative breast cancers
EGFR [31G7]	MC0332	For identification of basal-like breast carcinoma along with CK5/6
EGFR [EP22]	RM0089	
EGFR [GFR/1667]	MC0157	
EGFR Pho (pY1068) [EP11]	RM0090	Considered to be one of the most important predictors for the clinical outcome of non-small cell lung and breast cancer
EGFRvIII [MD17]	MC0535	Tumor specific and not expressed in normal human tissues

Breast Cancer Markers

Name	Cat. No.	Application
ER [1D5]	MC0335	Invasive breast cancer marker; useful to differentiate infiltrating ductal (+) vs adenoid cystic (-)
ER [1D5]	MC0335	
ER [EP1]	RM0092	
ER [MD4R]	RM0247	
ER [SP1]	RM0248	
ER-beta [ERb455]	MC0973	a mediator of estrogen action in breast cancer cells with tumor-initiating capabilities (BSCs) and a novel target for endocrine therapy
ERCC1 [EP219]	RM0093	Expression correlated significantly with favorable prognostic factors, such as smaller tumor size and ER-positivity, a predictive and/or prognostic marker in breast cancer
FOXA1 [EP277]	RM0291	Expression correlated with ER positivity, especially in luminal subtype A breast cancers, which is associated with favorable prognosis
GATA3 [C11]	MC0125	Expression associated with estrogen receptor-alpha expression in breast cancer
GATA3 [HG3-31]	MC0589	
GATA3 [L50-823]	MC0538	
GATA3 [MD22R]	RM0325	
GCDFP-15 [EP1582Y]	RM0251	A less sensitive but more specific marker than Mammaglobin for breast carcinoma. Together the two markers may help establish the correct interpretation of metastatic breast carcinoma
GCDFP-15 [EP95]	RM0097	
HSP27 [G3.1]	MC0154	Increased levels correlated with the presence of ER and PR in breast ca.
HER2 [EP3]	RM0104	Overexpressed in 15-30% breast cancers, prognostic and therapeutic marker
HER2 [HRB2/451]	MC0168	
HER2 [MD13R]	RM0254	
HER2 (pY877) [EP123]	RM0105	May aid in predicting breast cancer progression
IMP3/KOC [EP286]	RM0344	Promotes stem-like properties in triple-negative breast cancer by regulating SLUG, and chemoresistance in breast cancer cells by regulating breast cancer resistance protein ABCG2 expression
IMP3/KOC Polyclonal	RC0308	
Ki67 [EP5]	RM0116	Proliferation marker; positive expression of p-Cadherin, p53 and Ki67 associated with higher grade
Ki67 [MIB-1]	MC0185	
Ki67 [SP6]	RM0255	
Mammaglobin [304-1A5]	MC0546	A more sensitive but less specific marker than GCDFP-15 for breast carcinoma. Together the two markers may help establish the correct interpretation of metastatic breast carcinoma
Mammaglobin [31-A5]	RM0411	
Mammaglobin [EP249]	RM0122	

Breast Cancer Markers

Name	Cat. No.	Application
MDM2 [SMP14]	MC0548	Amplification is an independent prognostic feature of node-negative, estrogen receptor-positive early-stage breast cancer
Myosin SM HC [SMMS1]	MC0206	Distinguishes between benign sclerosing breast lesions and infiltrating carcinomas in difficult cases since it strongly stains the myoepithelial layer in the benign lesions while it is negative in the infiltrating ca.
OCT3/4 [C-10]	MC0561	Expressed in breast cancer associated with SLN and non-SLN metastasis, a potential candidate for predicting metastasis
OCT4 [EP143]	RM0148	
p120 Catenin [EP66]	RM0151	Cytoplasmic accumulation associated with lobular breast carcinoma whereas ductal neoplasms retain membranous localization
p16/INK4a [2D9A12]	MC0198	Expression correlated with basal-like triple-negative breast carcinoma, may play a role in the poor prognosis
p16/INK4a [G175-405]	MC0280	
p53 [BP-53-12]	MC0218	Positive expression of p-Cadherin, p53 and Ki67 are associated with higher grade
p53 [DO-7]	MC0219	
p53 [EP9]	RM0154	
PAX6 [EP341]	RM0390	Overexpression associated with the poor prognosis of invasive ductal breast cancer
PAX6 [SPM612]	MC0983	
PD-1 [EP239]	RM0392	The presence of PD-1 positive tumor-infiltrating lymphocytes (TIL) associated with poor prognosis in breast cancers a promising biomarker for the prognosis of breast cancer
PD-1 [PDCD1/922]	MC0909	
PD-L1 [MD21R]	RM0324	
Podoplanin [D2-40]	MC0329	A useful marker in identification of lymphatic invasion of primary tumors, may be a specific marker for cells of mesothelial origin
PR [EP2]	RM0164	Invasive breast cancer marker; useful to differentiate infiltrating ductal (+) vs adenoid cystic (-)
PR [MD8R]	RM0264	
PR [PR484]	MC0920	
PR [SP2]	RM0265	
SOX2 [EP103]	RM0179	A novel SOX2-mediated regulatory axis that plays critical roles in the proliferation, migration and invasiveness of breast cancer cells
STMN1 [EP247]	RM0399	A potential tool for predicting the outcome of breast cancer patients with lymph node metastasis
STMN1 [SP49]	RM0318	
STMN1 Polyclonal	RC0303	
TFF1/pS2 [EP47]	RM0183	Expressed predominantly in gastric epithelia, in the upper portion of the glandular pits, and highly expressed in some adenoca. such as breast cancer

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