

# Tumor immunohistochemistry (IHC) testing and their indications

IHC	NAME	CLINICAL UTILITY	TUMOR TYPES WITH STRONGEST EVIDENCE
ALK	Anaplastic Lymphoma Receptor Tyrosine Kinase	Use of ALK inhibitors	NSCLC, Thyroid, CRC
AR	Androgen Receptor	Use of androgen deprivation therapy	Breast, Prostate
CAIX	Carbonic Anhydrase 9	Use of doxorubicin, IL2, fluoropyrimidines	CRC, Kidney, Breast, GBM
ER	Estrogen Receptor	Use of anti-estrogens	Breast
hENT1	Human Equilibrative Nucleoside Transporter 1	Use of gemcitabine	Pancreatic, NSCLC, Cholangiocarcinoma, Bladder, Ampulla of Vater, Breast, Gastric, Esophageal
HER2	Human Epidermal Growth Factor Receptor 2	Use of HER2 targeted agents	Breast, Gastric Esophageal
IDO	Indoleamine 2,3-dioxygenase	Clinical trials of anti-IDO therapy	Ovarian
MET	Mesenchymal Epithelial Transition Factor	Clinical trials of MET inhibitors	Colon, Rectal, Esophageal, Gastroesophageal, Head, Neck, NSCLC, Thyroid, Uterine, Solid Tumors
MGMT	O-6-methylguanine-DNA Methyltransferase	Use of methylating agents such as temozolomide	CRC, CNS, Uterine, NET
PD1	Programmed Death 1	Clinical trials of anti-PD1/PD-L1 therapy	Cervical, Prostate
PD-L1	Programmed Death Ligand 1	Use of anti-PD1/PD-L1 therapy	Melanoma
PR	Progesterone Receptor	Use of anti-estrogens	Breast
PTEN	Phosphatase and Tensin Homolog	Use of anti-EGFR therapy	CRC, NSCLC, Pancreatic, Gastric, Esophageal, Prostate, NET
RET	Rearranged during Transfection	Clinical trials of anti-RET therapy	NSCLC
ROS1	ROS Proto-Oncogene 1 Receptor Tyrosine Kinase	Use of ALK inhibitors	NSCLC
TOPO1	Topoisomerase (DNA) 1	Use of topoisomerase I inhibitors	CRC, Ovarian
TP	Thymidylate Phosphorylase	Use of fluoropyrimidines	Breast, CRC, NSCLC, Gastric, Esophageal
TRKpan	Tropomyosin Receptor Kinase	Clinical trials of TRK inhibitors	Solid Tumors
TS	Thymidylate Synthase	Use of fluoropyrimidines	Breast, CRC, NSCLC, Gastric, Mesothelioma
TUBB3	Tubulin, Beta 3 Class III	Use of anti-tubulin therapy	NSCLC, Prostate, Breast, Ovarian, Gastric, Thymic, CUP, Gastric, HNSCC, Uterine
MLH1, MSH2, MSH6, PMS2	MutL homolog 1, mutS homolog 2, mutS homolog 6, PMS1 homolog 2	Use of pembrolizumab	CRC

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