

Details of Common Tumor Markers Currently in Use

Tumor markers	What Cancers	What else?	When/how used	Sample
AFP (Alpha-feto protein)	Liver, germ cell cancer of ovaries or testes	Also elevated during pregnancy	Help diagnose, monitor treatment, and determine recurrence	Blood
B2M (Beta-2 microglobulin)	Multiple myeloma and lymphomas	Present in many other conditions, including Crohn's disease and hepatitis; often used to determine cause of renal failure	Determine prognosis	Blood
CA 15-3 (Cancer antigen 15-3)	Breast cancer and others, including lung, ovarian	Also elevated in benign breast conditions; doctor can use CA 15-3 or CA 27.29 (two different assays for same marker)	Stage disease, monitor treatment, and determine recurrence	Blood
CA 19-9 (Cancer antigen 19-9)	Pancreatic, sometimes colorectal and bile ducts	Also elevated in pancreatitis and inflammatory bowel disease	Stage disease, monitor treatment, and determine recurrence	Blood
CA-125 (Cancer antigen 125)	Ovarian	Also elevated with endometriosis, some other benign diseases and conditions; not recommended as a general screen	Help diagnose, monitor treatment, and determine recurrence	Blood
Calcitonin	Thyroid medullary carcinoma	Also elevated in pernicious anemia and thyroiditis	Help diagnose, monitor treatment, and determine recurrence	Blood
CEA (Carcino-embryonic antigen)	Colorectal, lung, breast, thyroid, pancreatic, liver, cervix, and bladder	Elevated in other conditions such as hepatitis, COPD, colitis, pancreatitis, and in cigarette smokers	Monitor treatment and determine recurrence	Blood
Chromogranin A (CgA)	Neuroendocrine tumors (carcinoid tumors, neuroblastoma)	May be most sensitive tumor marker for carcinoid tumors	To help diagnose and monitor	Blood
Estrogen receptors	Breast	Increased in hormone-dependent cancer	Determine prognosis and guide treatment	Tissue
hCG (Human chorionic gonadotropin)	Testicular and trophoblastic disease	Elevated in pregnancy, testicular failure	Help diagnose, monitor treatment, and determine recurrence	Blood, urine
Her-2/neu	Breast	Oncogene that is present in multiple copies in 20-30% of invasive breast cancer	Determine prognosis and guide treatment	Tissue
Monoclonal immunoglobulins	Multiple myeloma and Waldenstrom's macroglobulinemia	Overproduction of an immunoglobulin or antibody, usually detected by protein electrophoresis	Help diagnose, monitor treatment, and determine recurrence	Blood, urine
Progesterone receptors	Breast	Increased in hormone-dependent cancer	Determine prognosis and guide treatment	Tissue
PSA Total, Free (Prostate specific Ag)	Prostate	Elevated in benign prostatic hyperplasia, prostatitis & with age	Screen for and help Dx, monitor, Rx and recurrence	Blood
Thyroglobulin	Thyroid	Used after thyroid is removed to evaluate treatment	Determine recurrence	Blood