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| **Bence-Jones Proteins** (urine test) or **Monoclonal Immunoglobulins** (blood test) | Multiple Myeloma\*\* Waldenstrom's macroglobulinemia, chronic lymphocytic leukemia | Amyloidosis | Generally, a value of 0.03-0.05 mg/ml is significant for early disease |
| **B2M Beta-2-Microglobulin** | Multiple myeloma\*\*, chronic lymphocytic leukemia (CLL), and some lymphomas (including Waldenstrom’s macroglobulinemia) | Kidney disease, hepatitis | < 2.5 mg/L |
| **BTA Bladder Tumor Antigen (urine test)** | Bladder cancer\*\*, cancer of kidney or ureters | Invasive procedure or infection of bladder or urinary tract | None normally detected |
| **CA 15-3 Cancer Antigen 15-3 or Carbohydrate Antigen 15-3** | Breast\*\* (often not elevated in early stages of breast cancer), lung, ovarian, endometrial, bladder, gastrointestinal | Liver disease (cirrhosis, hepatitis), lupus, sarcoid, tuberculosis, non-cancerous breast lesions | < 31 U/ml (30% of patients have an elevated CA 15-3 for 30-90 days after treatment, so wait 2-3 months after starting new treatment to check) |
| **CA 125 Cancer Antigen 125 or Carbohydrate Antigen 125** | Ovarian cancer\*\* breast, colorectal, uterine, cervical, pancreas, liver, lung | Pregnancy, menstruation, endometriosis, ovarian cysts, fibroids, pelvic inflammatory disease, pancreatitis, cirrhosis, hepatitis, peritonitis, pleural effusion, following surgery or paracentesis | 0-35 U/ml |
| **CA 27.29 Cancer Antigen 27.29 or Carbohydrate Antigen 27.29** | Breast\*\* (best used to detect recurrence or metastasis). Colon, gastric, liver, lung, pancreatic, ovarian, prostate cancers | Ovarian cysts, liver and kidney disorders, non-cancerous (benign) breast problems | < 40 U/ml Generally, levels > 100 U/ml signify cancer (30% of patients have elevated CA 27.29 for 30-90 days after treatment, so wait 2-3 months after starting new treatment to check) |
| **Calcitonin** | Medullary thyroid cancer\*\* | Chronic renal insufficiency, Chronic use of Proton-pump inhibitors (medications given to reduce stomach acid) | <8.5 pg/mL for men < 5.0 pg/mL for women |
| **CEA Carcinoembryonic Antigen** | Colorectal cancers \*\* Breast, lung, gastric, pancreatic, bladder, kidney, thyroid, head & neck, cervical, ovarian, liver, lymphoma, melanoma | Cigarette smoking, pancreatitis, hepatitis, inflammatory bowel disease, peptic ulcer disease, hypothyroidism, cirrhosis, COPD, biliary obstruction | <2.5 ng/ml in non-smokers <5 ng/ml in smokers Generally, > 100 signifies metastatic cancer |
| **Chromogranin A** | Neuroendocrine Tumors\*\*, carcinoid tumors, neuroblastoma, and small cell lung cancer | Proton-pump inhibitors (medications given to reduce stomach acid) | Normal varies on how tested, but typically < 39 ng/l is normal |
| **LDH Lactic Dehydrogenase** | Lymphoma, melanoma, acute leukemia, seminoma (germ cell tumors) | Hepatitis, MI (heart attack), stroke, anemia (pernicious & thalassemia), muscular dystrophy, certain medications (narcotics, aspirin, anesthetics, alcohol), muscle injury | Normal values are 100-333 u/l |
| **NSE Neuron-specific Enolase** | Small cell lung cancer\*\*, neuroblastoma | Proton pump inhibitor treatment, hemolytic anemia, hepatic failure, end stage renal failure, brain injury, seizure, stroke | Normal < 9 ug/L |
| **NMP 22 (urine test)** | Bladder cancer\*\* | BPH (benign prostatic hypertrophy), prostatitis | Normal < 10 U/ml |
| **PAP Prostatic Acid Phosphatase** | Metastatic prostate cancer\*\* Myeloma, lung cancer, osteogenic sarcoma | Prostatitis, Gaucher's disease, osteoporosis, cirrhosis, hyperparathyroidism, prostatic hypertrophy | Normal : 0.5 to 1.9 u/l |
| **PSA Prostate Specific Antigen** | Prostate\*\* | BPH (benign prostatic hypertrophy), nodular prostatic hyperplasia, prostatitis, prostate trauma/ inflammation, ejaculation | Normal < 4 ng/ml (half life 2-3 days) |
| **Tg Thyroglobulin** | Thyroid Cancer | Anti-thyroglobulin antibodies | < 33 ng/mL; if entire thyroid removed < 2 ng/mL |
| **Urine Catecholamines: VMA Vanillylmandelic Acid (24 hour collection of urine; it is a catecholamine metabolite)** | Neuroblastoma\*\* Pheochromocytoma, ganglioneuroma, rhabdomyosarcoma, PNET | Dietary intake (bananas, vanilla, tea, coffee, ice cream, chocolate), medications (tetracyclines, methyldopa, MAOIs) | 8 – 35 mmols over 24 hours |
| **HVA Homovanillic Acid (24 hour collection of urine; it is a catecholamine metabolite)** | Neuroblastoma\*\* | Same as VMA, in addition: psychosis, major depression, dopamine (a medication) | Up to 40 mmols over 24 hours |