

Carcinoembryonic Antigens (CEA)	
Description	CEA is a heterogeneous group of molecules that derive their name from the discovery that they occur in the foetal gut as well as in neoplastic tissues.
Indication	<p>Screening CEA is neither sufficiently specific nor sensitive enough to be used in screening for early colorectal carcinoma in asymptomatic individuals.</p> <p>Main clinical applications:</p> <ol style="list-style-type: none"> a. In determining prognosis. Measurement of CEA pre-operatively in carcinoma of colon may predict risk of recurrence and may help identify patients who are candidates for adjuvant chemotherapy. b. In surveillance following curative resection of colorectal cancer. Despite potentially curative surgery, 40 – 50% of patients with colorectal carcinoma develop recurrent or metastatic disease. Three monthly measurement of CEA may improve the detection of local recurrence at a resectable stage. A significant increase in CEA is an elevation of at least 30% greater than the previous value. This should be confirmed by a second sample taken within one month. Smaller increases of 15 – 20% maintained over at least three successive measurements may also prompt intervention. Serial measurements of CEA have a sensitivity of ~80% and a specificity of ~70% for detecting recurrence. Low concentrations of CEA do not necessarily exclude progression and in patients with clinical symptoms of recurrence additional tests eg colonoscopy are required regardless of CEA concentration. c. In monitoring therapy in advanced colorectal cancer. d. May be useful in monitoring treatment in other gastrointestinal malignancies.
Additional Info	N/A
Concurrent Tests	Other tumour markers such as CA19-9.
Dietary Requirements	N/A
Interpretation	<p>CEA must be interpreted together with clinical findings.</p> <p>Malignancies with elevated CEA: CEA is raised in 60% patients with colorectal carcinoma, more commonly in those with advanced disease (raised in 80-100% of those with hepatic metastases). CEA may be elevated in almost any advanced adenocarcinoma eg lung, breast, pancreas, liver, stomach, ovary, prostate and in medullary carcinoma of thyroid.</p> <p>Benign diseases which may have elevated CEA: Lesser elevations occur in a number of non-malignant conditions eg hepatitis, cirrhosis, alcoholic liver disease, obstructive jaundice, pancreatic disease, inflammatory bowel disease, renal impairment, benign breast disease, collagen vascular disease, following treatment with 5-Fluorouracil and in some heavy smokers.</p>
Collection Conditions	Serum sample
Frequency of testing	Minimum retesting interval 2-3 months when monitoring for disease recurrence.