

CEA – [Serum] Analysis

Objective

The objective of this test is to quantitatively measure Carcinoembryonic Antigen (CEA) levels in serum. CEA is a tumor marker commonly used to monitor colorectal cancer and other malignancies.

Materials and Methods

Materials:

- Serum sample from patient
- Immunoassay kits (ELISA, chemiluminescence) specific for CEA
- Automated analyzers or microplate readers
- Standard laboratory equipment (pipettes, centrifuge)

Methods:

1. Sample Collection: Collect venous blood and separate serum by centrifugation.
2. Measurement: Perform quantitative CEA assay using immunoassay techniques.
3. Calibration: Use assay calibrators for accurate measurement.
4. Interpretation: Compare CEA levels to reference ranges and monitor changes over time.
5. Quality Control: Include controls to validate assay accuracy.

Results

- Normal range: < 5 ng/mL (may vary by laboratory)
- Elevated CEA: May indicate colorectal cancer, other malignancies, or benign conditions
- Serial measurements help monitor treatment response and disease recurrence

Conclusion

CEA measurement is an important tool in the management of colorectal and other cancers. Results should be interpreted alongside clinical findings and imaging studies for accurate patient care.