

Cystatin C (cysC): CysC is measured using the BNII nephelometer (Dade Behring Inc., Deerfield, IL) utilizing a particle enhanced immunonephelometric assay (N Latex Cystatin C). Polystyrene particles are coated with monoclonal antibodies to cysC that agglutinate in the presence of antigen (cysC) to cause an increase in the intensity of scattered light. The increase in scattered light is proportional to the amount of cysC in the sample. The assay range is 0.195 to 7.330 mg/L. Expected values for cysC in normal, healthy individuals are 0.53 – 0.95 mg/L. Intra-assay CVs range from 2.0 – 2.8% and inter-assay CVs range from 2.3 – 3.1%.

Cystatin C (cysC) is a protease inhibitor thought to modulate the intracellular catabolism of proteins. It is formed at a constant rate, freely filtered by the renal glomeruli, and completely reabsorbed and catabolized by the proximal tubular cells. Plasma levels of cysC are reported to be unaffected by age, body weight, gender, ethnic groups, diet, medications, or inflammation. CysC has therefore been proposed as a marker of glomerular filtration rate. Serum creatinine is widely used for estimation of the glomerular filtration rate, but its tubular secretion, dependence on muscle mass, and alteration in some inflammatory conditions can limit its utility. Thus, cysC may be a more useful marker in some settings. In particular, cysC is reported to be superior to serum creatinine for the detection of early decreases in glomerular filtration rate.