

Cystatin C (Cysc), in serum and urine, for Turbidimetry

General information: structure, function ...

Cystatin C (CysC) is a nonglycosylated protein with a low molecular weight (approx. 13 KDa), which is produced in virtually all nucleated cells and is found in all body fluids.

Because of its low molecular weight and high isoelectric point, it is freely filtered through the glomerulus and almost completely reabsorbed in the proximal tubule, where it is catabolized.

CysC in serum - Clinical Significance

Cystatin C production rate is very constant (only somewhat affected by thyroid dysfunction and certain drugs, and independent of anthropometric variables, such as weight, muscle mass, etc.). Its level in plasma, or serum, correlates inversely with glomerular filtration rate (GFR), thus making it an excellent marker for its estimation using the appropriate equations.

The estimation of GFR by Cystatin C is more sensitive, accurate and early than that performed by Creatinine, particularly for those patients in whom the measurement of creatinine is unsuitable or when the GFR is only slightly affected (the so-called "creatinine-blind zone" - GFR between 40 and 80 ml/min/1.73m²).

Referencing the levels of other analytes to Cystatin C is a good way to free it from the effect of an eventual deterioration of glomerular function. This may be applicable in the case of quantitation of other low molecular weight proteins or drugs. For example, the β 2-microglobulin/Cystatin-C ratio has been reported to be a good indicator of lymphoproliferation levels.

CysC in urine - Clinical Significance

As for other microproteins, measurement of cystatin C levels in urine may be a sensitive marker of tubular dysfunction, resulting from any cause or pathology (transplants, diabetes, poisoning, etc.), and according to some studies, it shows some advantages compared to other proteins due to its stability and constant production rate.

Assay Performances and Characteristics

- ➔ **Turbidimetric Immunoassays (TIA)**, enhanced with polystyrene particles, for their use on Clinical Chemistry automatic analyzers.
- ➔ Ready-to-use Reagents, prediluted Calibrators, and Controls, at 2 levels, for serum and urine.
- ➔ Standardized to the **European Reference Material for the Cystatin C** (code: ERM[®]-DA471/IFCC), of the *Institute for Reference Materials and Measurements (IRMM)*.
- ➔ Excellent precision and reproducibility:
Serum: CV < 3% - Urine: CV < 6%

Catalogue

3diag - U-CysC - Tia Kit

 TD-42615-U  100 test

EAN/GTIN: 8434477306075

Contains Reagents, Calibrators and Controls

3diag - CysC - Tia Kit

 TD-42615  100 test

EAN/GTIN: 8434477306105

Contains Reagents, Calibrator and Controls

Also available for other analytical platforms. For further information, please contact the Customer Support Service at support@3diag.com