

# Glomerular Filtration Rate GFR

## General:

Cystatin C is eliminated from the circulation almost exclusively by glomerular filtration and reabsorbed tubularly. The cystatin C concentration in serum depends therefore on the glomerular filtration rate (GFR). Kidney failure leads to an at least 10-fold rise of the cystatin C concentration in serum. Malfunctions of the proximal renal tubuli affect the cystatin absorption of glomerular ultrafiltrates. As cystatin C concentration in serum is not affected by inflammations, malignant processes, muscle mass or gender, it adjusts with increasing age to GFR. Thus cystatin C has the highest diagnostic sensitivity to indicate a reduced GFR also within the creatinine-blind range.

Indication: Control of the renal function (glomerular filtration rate)

Material: 1 ml serum

Preanalytics: Blood collection in the morning from fasting patient. Blood collection in upright position results in approx. 10% higher values than in lying position.

Stability: 7 days at 2 to 8°C

TAT: same day, FML

Method: nephelometric

Units: mg/l

Ref.- range: see report

Calculation  
GFR: according to Grubb A et al.:

$$\text{GFR} = 84.69 \cdot (\text{SCYS})^{-1.68}$$

Correction for women: \*0.948

Correction for children (<14years): \*1.384

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit  
<http://www.fml-dubai.com/parameter-listings/>