TECOmedical Group

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Technical Information

α-GST, Human Urine, Serum, Plasma

Kidney Injury Biomarker for proximal tubular damage

Cat. No.:	TE1056
Tests:	96
Method:	**ELISA**
Range:	2.5 - 80 µg/l
Sensitivity:	1.9 µg/l
Incubation time:	2 h
Sample volume:	100 µl
Sample type:	**Urine**: (Suggested initial dilution 1:2)
Sample preparation:	Overnight or 24 h urine is recommended. As soon as possible after collection sample should be diluted with urine stabilizing buffer (USB). Sample:USB 4:1. After the addition of USB, samples can be stored at 20-25 °C for up to 48 hours, at 2-8 °C for up to one week or at - 20 °C for >1 year. Repeated freeze thawing of samples should be avoided. **Serum, Plasma:** (Suggested initial dilution 1:5) Centrifuge within 3 hours from time of collection and transfer the sample from the original tube for storage. Samples can be stored at 20 – 25 °C for up to 48 hours, at 2 – 8 °C for up to one week or at -20 °C for >1 year. Repeated freeze thawing of samples should be avoided.
Species:	Human
Reference values:	**Urine:** 0 - 29.0 µg/l **Serum, Plasma:** 0-12 µg/l
Cross reaction:	No cross-reactivity was observed with µ-GST at 500 µg/l or π-GST at 500 µg/l

Background:

Alpha Glutathione S-Transferase (α-GST) is a member of the GST superfamily of small cytosolic proteins primarily involved in cellular detoxification reactions. α-GST is approximately 51kDa and can comprise up to 2 % of the cytosolic soluble protein content. As a result of its constitutive nature, α-GST is immediately released into the urine upon lysis of epithelial cells of the proximal tubule.

Intended use:
The α-GST EIA provides a method for the quantitative determination of alpha glutathione S-transferase (α-GST) in human urine. The α-GST EIA can also be used for the determination of α-GST in human, serum and plasma, to assess liver injury.

Elevated urinary α-GST levels are an early indicator of acute kidney injury (AKI) onset in cases of nephrotoxicity, environmental toxicity, cardiothoracic surgery and in transplantation rejection. The release of π-GST has been shown to be associated with distal tubular damage, thus simultaneous measurement of both α-GST and π-GST allows discrimination between proximal and distal tubular damage. Low basal levels of α-GST are released in normal healthy individuals.

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