

Technical Information

NGAL, Human

Kidney Injury Biomarker for distal tubular damage

Cat. No.:	KIT 036
Tests:	96
Method:	ELISA
Range:	0.4-100 ng/ml
Sensitivity:	0.4 ng/ml
Incubation time:	3.5 hours
Sample volume:	100 µl
Sample type:	Urine (Suggested initial dilution of 1:20) Plasma (Suggested initial dilution of 1:10) Cell culture
Sample preparation:	Urine: Collect urine using normal aseptic techniques. Centrifuge the urine to remove debris (1500xg at 4 °C for 15 min). Transfer urine to a fresh polypropylene tube. Plasma: Separate plasma from whole blood within 20 min of sampling (1500xg at 4 °C for 15 min). Remove plasma and transfer to fresh polypropylene tube. Recentrifuge the transferred plasma in order to avoid every contamination with white blood cells (1500xg at 4 °C for 15 min). Most reliable results are obtained if EDTA plasma is used. Storage: Store samples below -20 °C, preferably at -70 °C in polypropylene tubes. Use samples within 24 hours after thawing. Avoid multiple freeze-thaw cycles. Do not use hemolyzed, hyperlipemic, heat-treated or contaminated samples.
Species:	Human
Cross reaction:	Cross reactivity for other protein / peptides has not been tested

Background:

Human Neutrophil Gelatinase-Associated Lipocalin (NGAL) is a low molecular weight 25kDa glycoprotein and a member of the lipocalin superfamily, a family of small extracellular proteins that are characterized by the ability to bind small hydrophobic molecules. NGAL can also bind to specific cell surface receptors.

NGAL has been identified as an iron-transporting protein during nephrogenesis, demonstrating a role for NGAL in renal organogenesis. NGAL is widely expressed in a variety of human tissues, including, kidney trachea, lungs, stomach and colon. In the kidney NGAL is thought to be expressed in the collecting duct and distal tubule.

Intended use:

The NGAL EIA provides a method for the quantitative determination of NGAL in human urine, plasma and cell culture supernatant. NGAL is rapidly upregulated and released in response to injury and has demonstrated value as an early biomarker for the detection of acute kidney injury (AKI) onset in various clinical settings including:

- Cardiothoracic Surgery
- Emergency room and intensive care-unit
- Contrast Induced Nephropathy

NGAL has also been investigated as a biomarker of renal injury in:

- Acute allograft rejection
- Chronic kidney disease

Serum NGAL has been investigated as a biomarker of AKI onset in the critical care population

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