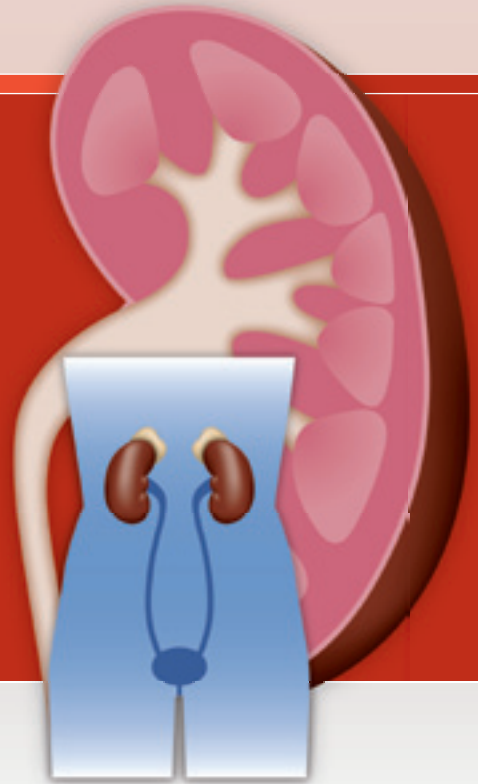


# Human NGAL Rapid ELISA Kit (KIT 037)

For human urine, plasma or serum

## Early diagnosis of acute kidney injury in

- Critical illness
- Nephrotoxicity
- Kidney transplantation



# NGAL

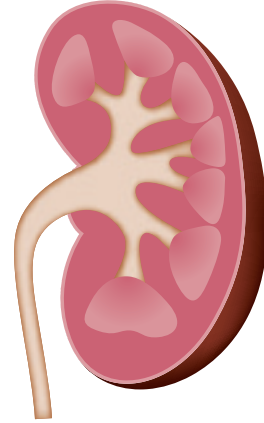
## NGAL – an early marker of kidney injury

NGAL (neutrophil gelatinase-associated lipocalin, lipocalin-2) is a small protein expressed in neutrophils and certain epithelia, including the renal tubules. Renal expression of NGAL is dramatically increased after kidney injury, and NGAL is released into both urine and plasma. NGAL levels rise within 2 hours of the insult, making NGAL an early and sensitive biomarker of kidney injury.

### Clinical significance

NGAL levels may also be moderately raised in infections and certain cancers. Rises in NGAL above the baseline level for the patient may indicate acute kidney injury which may lead to acute renal failure. NGAL determination is relevant in, amongst others:

- Critically ill patients<sup>1,2</sup>
- Kidney transplants<sup>3,4</sup>
- Use of i.v. X-ray contrast agents<sup>5,6</sup>



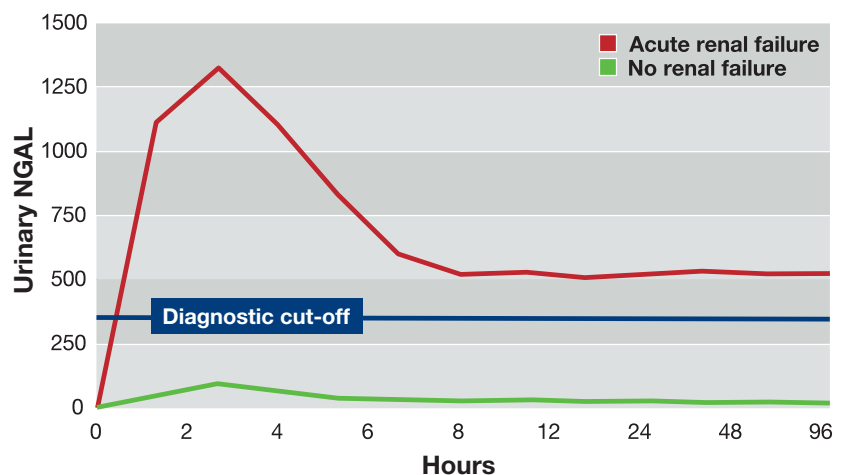
30% or more of patients in intensive care may suffer some degree of acute renal failure. The onset of acute renal failure on top of other critical illness increases the mortality dramatically. The prognosis of acute renal failure has not improved significantly over the last four decades. Current diagnostic methods such as serum creatinine or cystatin C measurements only respond after renal function has deteriorated, which may or may not become apparent until one or more days after the original insult. With the NGAL Rapid ELISA Kit, physicians can initiate appropriate management of acute kidney injury within hours rather than days after the insult.

Studies by BioPorto Diagnostics<sup>1</sup> have shown that the mean NGAL concentration in urine from healthy donors was 5.3 ng/mL (range 0.7-9.6 ng/mL). The mean NGAL concentration in plasma from healthy donors was 63 ng/mL (range 37-106 ng/mL). NGAL levels rise steeply immediately after kidney injury. In unselected patients admitted to intensive care, the NGAL concentrations in urine ranged from 110 ng/mL to 40,000 ng/mL, while the mean NGAL concentration in EDTA plasma ranged from 25 ng/mL to 3500 ng/mL. Urinary levels above a cut-off of 350 ng/mL or plasma levels above 400 ng/mL are associated with acute renal failure, with a positive predictive value of approximately 90%.

### Illustrative time-course of urinary NGAL concentration after a moderate renal insult

Illustrative time-course of the urinary NGAL level after a moderate renal insult.

The red line represents a patient that with 90% positive predictive value will develop acute renal failure, while the green line represents a patient that will not develop acute renal failure.



# NGAL Rapid ELISA Kit<sup>†</sup> <sup>\*</sup>

## Key features

With the NGAL Rapid ELISA Kit, urine, plasma or serum samples can be analyzed in less than 1 hour in a standard laboratory with conventional ELISA equipment. All components are stored at 4°C and incubations performed at room temperature.

The kit contains ready-to-use calibrators, reagents and pre-coated well strips, which greatly reduces the hands-on time. The simple test protocol combines high reproducibility with rapid analysis.


- 1-hour rapid assay format
- For *in-vitro* diagnostic (IVD) use in selected countries\*
- Measures in urine, plasma and serum
- All reagents are ready to use
- Automation possible on open ELISA workstations
- Assay dynamic range is 100-fold

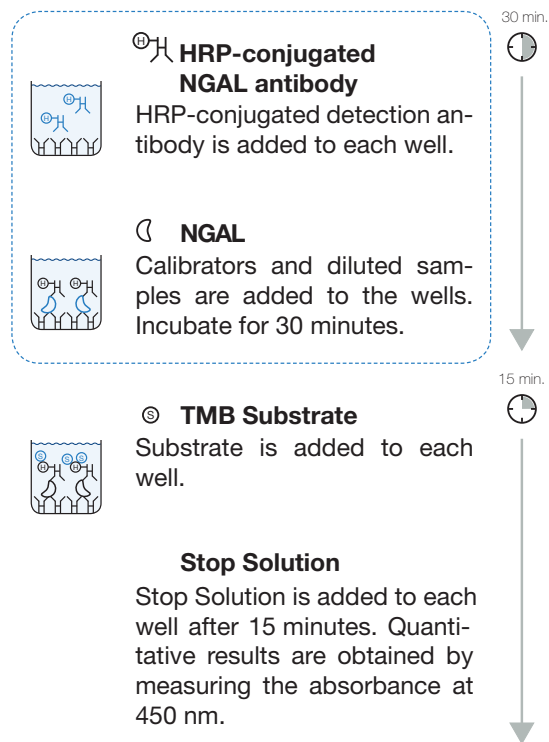
## Kit components

Item	Contents	Quantity
①	12 x 8 coated Microwells + Frame	96 wells
②	5x Sample Diluent Concentrate	1 x 60 mL
③a-③f	NGAL Rapid Calibrator 1-6 The exact concentration of each calibrator is printed on the label of the vials and on the QC-certificate.	6 x 1 mL
④	25x Wash Solution Concentrate	1 x 30 mL
⑤	HRP-conjugated NGAL Antibody	1 x 6 mL
⑥	TMB Substrate	1 x 12 mL
⑦	Stop Solution	1 x 16 mL
⑧	Polypropylene U-Microwell Plate	96 wells



## Assay procedure

 **NGAL antibody**  
Plates are pre-coated with the primary NGAL antibody. Plates are ready to use.



## Ordering information

Cat. No.	Product name	Size
KIT 037	NGAL Rapid ELISA Kit	96 wells
WASH 037-30	25x Wash Solution Concentrate for KIT 037	30 mL
WASH 037-250	25x Wash Solution Concentrate for KIT 037	250 mL

Total assay time  
less than 1 hour

<sup>†</sup> See [www.bioporto.com](http://www.bioporto.com) for an updated list of issued patents.

<sup>\*</sup> See [www.bioporto.com](http://www.bioporto.com) for availability in your country.

## Related products

Cat. No.	Product name
KIT 036	NGAL ELISA Kit
HYB 211*	Mouse monoclonal anti-human NGAL antibodies

\*Also available biotinylated.

## Animal NGAL products

BioPorto Diagnostics also offers ELISA kits and monoclonal antibodies specific for rat, mouse, guinea pig, cat, dog, pig or monkey (Cynomolgus) NGAL. For more information please visit [www.ngal.com](http://www.ngal.com).

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## Other useful references

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