

NGAL references October 2007

REFERENCE ARTICLES ON NGAL

References marked with  have used AntibodyShop's products in the experimental work to obtain results published in the paper. Only selected references for the NGAL area are listed.

Area	Page
1 Renal injury and function.....	3
2 Chronic kidney disease.....	5
3 Transplantation.....	5
4 Cancer.....	5
5 Inflammation and infection.....	6
6 Background & Reviews.....	6

1 Renal injury and function

- 1.1 Bolignano D, Coppolino G, Campo S, Aloisi C, Nicocia G, Frisina N, Buemi M (2007) Urinary Neutrophil Gelatinase-Associated Lipocalin (NGAL) is associated with severity of renal disease in proteinuric patients. *Nephrol Dial Transplant E-pub ahead of print.*
- 1.2 Hirsch R, Dent C, Pfriem H, Allen J, Beekman RH 3rd, Ma Q, Dastrala S, Bennett M, Mitsnefes M, Devarajan P (2007) HNGAL is an early predictive biomarker of contrast-induced nephropathy in children. *Pediatr Nephrol Sep 14 E-pub ahead of print.*
- 1.3 Bachorzewska-Gajewska H, Malyszko J, Sitniewska E, Malyszko JS, Poniatowski B, Pawlak K, Dobrzycki S (2007) NGAL (neutrophil gelatinase-associated lipocalin) and cystatin C: Are they good predictors of contrast nephropathy after percutaneous coronary interventions in patients with stable angina and normal serum creatinine? *Int J Cardiol E-pub ahead of print.*
- 1.4 Wagener G, Gubitosa G, Jalbout M, Sladen R, Lee HT (2006) Aprotinin increases urinary NGAL, a marker for renal tubular injury after cardiac surgery. *Anaesthesiology 105:A1732.*
- 1.5 Bachorzewska-Gajewska H, Malyszko J, Sitniewska E, Malyszko JS, Dobrzycki S (2007) Neutrophil gelatinase-associated lipocalin (NGAL) correlations with cystatin C, serum creatinine and eGFR in patients with normal serum creatinine undergoing coronary angiography. *Nephrol Dial Transplant 22:295-296.*
- 1.6 Bolignano D, Coppolino G, Campo S, Aloisi C, Nicocia G, Frisina N, Buemi M (2007) Neutrophil gelatinase-associated lipocalin in patients with autosomal-dominant polycystic kidney disease. *Am J Nephro 27:373-378.*
- 1.7 Wagener G, Gubitosa G, Borregaard N, Bangert K, Sladen R, Lee H (2006) Urinary NGAL correlates with change in serum creatinine after cardiac surgery. *Intensive Care Med 32 (Suppl 1):S160.*
- 1.8 Bangert K, Heslet L, Ghiglione M, Uttenthal LO (2006) NGAL is significantly increased in urine and plasma in acute renal failure. *Intensive Care Med 32 (Suppl. 1):S10.*
- 1.9 Bangert K, Rossen M, Schoidt F, Uttenthal LO (2006) Increased serum NGAL levels predict death in acetaminophen intoxicated patients. *Intensive Care Med 32 (Suppl. 1):S162.*
- 1.10 Portal AJ, Austin M, Bruce MJ, Wendon J, Heneghan M (2006) A preliminary evaluation of a novel biomarker of renal function, neutrophil gelatinase-associated lipocalin (NGAL), in patients with liver disease. *Hepatology 44 (Suppl. 1):451A.*
- 1.11 Wagener G, Jan M, Kim M, Mori K, Barasch JM, Sladen RN, Lee HT (2006) Association between increases in urinary neutrophil gelatinase-associated lipocalin and acute renal dysfunction after adult cardiac surgery. *Anesthesiology 105:485-491.*

- 1.12 Brunner HI, Mueller M, Rutherford C, Passo MH, Witte D, Grom A, Mishra J, Devarajan P (2006) Urinary neutrophil gelatinase-associated lipocalin as a biomarker of nephritis in childhood-onset systemic lupus erythematosus. *Arthritis Rheum* 54:2577-2584.
- 1.13 Bachorzewska-Gajewska H, Malyszko J, Sitniewska E, Malyszko JS, Dobrzycki S (2006) Neutrophil-gelatinase-associated lipocalin and renal function after percutaneous coronary interventions. *Am J Nephrol* 26:287-292.
- 1.14 Trachtman H, Christen E, Cnaan A, Patrick J, Mai V, Mishra J, Jain A, Bullington N, Devarajan P (2006) Urinary neutrophil gelatinase-associated lipocalin in D+HUS: a novel marker of renal injury. *Pediatr Nephrol* 21:989-994.
- 1.15 Vera T, Henegar JR, Drummond HA, Rimoldi JM, Stec DE (2005) Protective effect of carbon monoxide-releasing compounds in ischemia-induced acute renal failure. *J Am Soc Nephrol* 131:528-535.
- 1.16 Mishra J, Dent C, Tarabishi R, Mitsnefes MM, Ma Q, Kelly C, Ruff SM, Zahedi K, Shao M, Bean J, Mori K, Barasch J, Devarajan P (2005) Neutrophil gelatinase-associated lipocalin (NGAL) as a biomarker for acute renal injury after cardiac surgery. *Lancet* 65:1231-1238.
- 1.17 Tong Z, Wu X, Ovcharenko D, Zhu J, Chen CS, Kehrer JP (2005) Neutrophil gelatinase associated lipocalin as a survival factor. *Biochem J* 391:441-448.
- 1.18 Mori K, Lee HT, Rapoport D, Drexler IR, Foster K, Yang J, Schmidt-Ott KM, Chen X, Li JY, Weiss S, Mishra J, Cheema FH, Markowitz G, Suganami T, Sawai K, Mukoyama M, Kunis C, D'Agati V, Devarajan P, Barasch J (2005) Endocytic delivery of lipocalin- siderophoreiron complex rescues the kidney from ischemia-reperfusion injury. *J Clin Invest* 115:610-621.
- 1.19 Mishra J, Mori K, Ma Q, Kelly C, Barasch J, Devarajan P (2004) Neutrophil gelatinase-associated lipocalin: a novel early urinary biomarker for cisplatin nephrotoxicity. *Am J Nephrol* 24:307-315.
- 1.20 Mishra J, Ma Q, Prada A, Mitsnefes M, Zahedi K, Yang J, Barasch J, Devarajan P (2003) Identification of neutrophil gelatinase-associated lipocalin as a novel early urinary biomarker for ischemic renal injury. *J Am Soc Nephrol* 14:2534-2543.
- 1.21 Ding H, He Y, Li K, Yang J, Li X, Lu R, Gao W (2007) Urinary neutrophil gelatinase-associated lipocalin (NGAL) is an early biomarker for renal tubulointerstitial injury in IgA nephropathy. *Clin Immunol* 123: 227-234.

2 Chronic kidney disease

- 2.1 Mitsnefes MM, Kathman TS, Mishra J, Kartal J, Khoury PR, Nickolas TL, Barasch J, Devarajan P (2007) Serum neutrophil gelatinase-associated lipocalin as a marker of renal function in children with chronic kidney disease. *Pediatr Nephrol* 22:101-108.

3 Transplantation

- 3.1 Schaub S, Mayr M, Hönger G, Bestland J, Steiger J, Regeniter A, Mihatsch MJ, Wilkins JA, Rush D and Nickerson P (2007) Detection of Subclinical Tubular Injury After Renal Transplantation: Comparison of Urine Protein Analysis With Allograft Histopathology. *Transplantation* 84(1):104-12.
- 3.2 Parikh CR, Thissen-Philbrook H, Mishra J, Jani A, Ma Q, Kelly C, Barasch J, Edelstein C, Devarajan P (2006) Urine NGAL and IL-18 are novel predictive biomarkers for delayed graft function. *Transplantation* 15(1 Suppl. 2):201.
- 3.3 Junge G, Schewior LV, Kohler S, Pratschke J, Neuhaus P, Langrehr JM (2006) Urinary neutrophil gelatinase-associated lipocalin (ngal) in brain-dead kidney donors indicates post transplant graft function. *Transplantation* 15(1 Suppl. 2):787.
- 3.4 Parikh CR, Jani A, Mishra J, Ma Q, Kelly C, Barasch J, Edelstein CL, Devarajan P (2006) Urine NGAL and IL-18 are predictive biomarkers for delayed graft function following kidney transplantation. *Am J Transplant* 6:1639-1645.
- 3.5 Mishra J, Ma Q, Kelly C, Mitsnefes M, Devarajan P (2006) Kidney NGAL is a novel early marker of acute injury following transplantation. *Pediatr Nephrol* 21:856-863.

4 Cancer

- 4.1 Lim R, Ahmed N, Borregaard N, Riley C, Wafai R, Thompson E W, Quinn M A, Rice G E (2007) Neutrophil gelatinase-associated lipocalin (NGAL) an early-screening biomarker for ovarian cancer: NGAL is associated with epidermal growth factor-induced epithelio-mesenchymal transition. *Int J Cancer*: 120:2426–2434
- 4.2 Laurell H, Bouisson M, Berthelemy P, Rochaix P, Dejean S, Besse P, Susini C, Pradayrol L, Vaysse N, Buscail L (2006) Identification of biomarkers of human pancreatic adenocarcinomas by expression profiling and validation with gene expression analysis in endoscopic ultrasound-guided fine needle aspiration samples. *World J Gastroenterol* 12:3344-3351.
- 4.3 Fernandez CA, Yan L, Louis G, Yang J, Kutok JL, Moses MA (2005) The matrix metalloproteinase-9/neutrophil gelatinase-associated lipocalin complex plays a role in breast tumor growth and is present in the urine of breast cancer patients. *Clin Cancer Res* 11:5390-5395.
- 4.4 Zhang H, Xu L, Xiao D, Xie J, Zeng H, Wang Z, Zhang X, Niu Y, Shen Z, Shen J, Wu X, Li E (2007) Upregulation of neutrophil gelatinase-associated lipocalin in oesophageal squamous cell carcinoma: significant correlation with cell differentiation and tumour invasion. *J Clin Pathol* 60:555-561.

5 Inflammation and infection

- 5.1 Cowland JB, Muta T, Borregaard N (2006) IL-1Beta-Specific Up-Regulation of Neutrophil Gelatinase-Associated Lipocalin Is Controlled by IkappaB-Zetha J Immunol 176: 5559-5566.
- 5.2 Goetz DH, Holmes MA, Borregaard N, Bluhm ME, Raymond KN, Strong RK (2002) The neutrophil lipocalin NGAL is a bacteriostatic agent that interferes with siderophoremediated iron acquisition. Mol Cell 10:1033-1043.
- 5.3 Xu SY, Pauksen K, Venge P (1995) Serum measurements of human neutrophil lipocalin (HNL) discriminate between acute bacterial and viral infections. Scand J Clin Lab Invest 55:125-131.

6 Background & Reviews

- 6.1 Devarajan P (2007) Emerging biomarkers of acute kidney injury. Contrib Nephrol.156:203-212.
- 6.2 Mori K & Nakao K (2007) Neutrophil gelatinase-associated lipocalin as the real-time indicator of active kidney damage. Kidney Int 71:967-970.
- 6.3 Schmidt-Ott KM, Mori K, Kalandadze A, Li JY, Paragas N, Nicholas T, Devarajan P, Barasch (2006) Neutrophil gelatinase-associated lipocalin-mediated iron traffic in kidney epithelia. Curr Opin Nephrol Hypertens 15:442-449.
- 6.4 Cowland JB, Borregaard N (1997) Molecular characterization and pattern of tissue expression of the gene for neutrophil gelatinase-associated lipocalin from humans. Genomics 45:17-23.
- 6.5 Kjeldsen L, Koch C, Arnljots K, Borregaard N (1996) Characterization of two ELISAs for NGAL, a newly described lipocalin in human neutrophils. J Immunol Methods 198:155- 164.
- 6.6 Kjeldsen L, Johnsen AH, Sengelov H, Borregaard N (1993) Isolation and primary structure of NGAL, a novel protein associated with human neutrophil gelatinase. J Biol Chem 268:10425-10432.

Cat. No.	Product name
KIT 037	NGAL Rapid ELISA Kit
KIT 036	NGAL ELISA Kit
HYB 211-01	Mouse monoclonal anti-NGAL (human) antibody
HYB 211-01B	Mouse monoclonal anti-NGAL (human) antibody, biotinylated
HYB 211-02	Mouse monoclonal anti-NGAL (human) antibody
HYB 211-02B	Mouse monoclonal anti-NGAL (human) antibody, biotinylated
HYB 211-05	Mouse monoclonal anti-NGAL (human) antibody
ABS 039-08	Mouse monoclonal anti-NGAL (rat) antibody
ABS 039-032	Mouse monoclonal anti-NGAL (rat) antibody
ABS 039-032B	Mouse monoclonal anti-NGAL (rat) antibody, biotinylated

For more information please contact AntibodyShop or your local distributor



ANTIBODYSHOP®

AntibodyShop A/S Phone (+45) 4529 0000
 Grusbakken 8 Fax (+45) 4529 0001
 DK-2820 Gentofte E-mail info@antibodyshop.com
 Denmark Web www.antibodyshop.com

Distributor's stamp

www.antibodyshop.com