

Setting the **standard** for **clinical** research.

BIOMARKERS IN NEPHROLOGY & TRANSPLANTATION



ASSAY CHARACTERISTICS

Anti C4d antibody (Cat.No: see applications)

Cat.No: BI-RC4D – C€

for IHC (paraffin embedded and frozen tissue section)

Cat.No: BI-RC4D-FITC

for flow cytometry application

Endostatin ELISA (Cat.No.: BI-20742)

Method	Sandwich ELISA, 12x8 tests
Sample matrix	serum, plasma (citrate, EDTA, heparin), urine protocol available
Sample size	5 µl neat sample volume / test
Standard range	0-80 nmol/l
Incubation time	3 h / 1 h / 30 min, room temperature

OPG ELISA (Cat.No.: BI-20403) – C€

Method	Sandwich ELISA, 12x8 tests
Sample matrix	serum, plasma (citrate, EDTA, heparin)
Sample size	20 µl / test
Standard range	0-20 pmol/l
Incubation time	4 h / 1 h / 30 min, room temperature

Sclerostin ELISA (Cat.No.: BI-20492)

Method	Sandwich ELISA, 12x8 tests
Sample matrix	serum, plasma (citrate, EDTA, heparin)
Sample size	20 µl / test
Standard range	0-240 pmol/l
Incubation time	overnight / 1 h / 30 min, room temperature



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ANTI C4d ANTIBODY · ENDOSTATIN · OSTEOPROTEGERIN (OPG) · SCLEROSTIN

ANTI C4d

FOR THE HUMORAL REJECTION IN RENAL, HEART AND LUNG TRANSPLANTS

Solid phase detection of C4d-fixing HLA antibodies to predict rejection in high immunological risk kidney transplant recipients.

Bartel G et al., Transpl Int, 2013; 26(2): 121-130
"... pretransplant SAB-based detection of complement-fixing DSA may be a valuable tool for risk stratification."

Preformed complement-activating low-level donor-specific antibody predicts early antibody-mediated rejection in renal allografts.

Lawrence C et al., Transplantation, 2013; 95(2):341-346
"... C4d SAFB is potentially a powerful tool for risk stratification prior to transplantation and may allow identification of unacceptable donor antigens, or patients who may require enhanced immunosuppression."

Modified solid-phase alloantibody detection for improved crossmatch prediction.

Wahrmann M et al., Hum Immunol, 2013; 74(1): 32-40
"Our data suggest particular efficiency of solid-phase complement detection as a tool for virtual crossmatching."

ENDOSTATIN

FOR THE PROGRESSION OF KIDNEY DISEASE

Elevated plasma levels of endostatin are associated with chronic kidney disease.

Chen J et al., Am J Nephrol, 2012; 35(4): 335-340
"These data indicate that elevated plasma endostatin is strongly and independently associated with CKD."

Early-onset coronary artery disease after pediatric kidney transplantation: implicating the angiogenesis inhibitor, endostatin.

Iqbal CW et al., Am Surg, 2011; 77(6): 731-735
"Endostatin levels were greater in kidney transplant recipients compared with liver transplant recipients and healthy control subjects. Endostatin may play a role in the development of atherosclerosis after kidney transplantation and may serve as a biomarker for atherosclerotic disease."

A defective angiogenesis in chronic kidney disease.

Futrakul N et al., Ren Fail, Jan 2008; 30(2): 215-217
"Enhanced CEC reflects an increased activity of vascular injury. A deficient VEGF in the presence of enhanced antiangiogenesis (endostatin) implies a defective angiogenesis. This may explain the progressive nature of renal microvascular disease observed in late stage of CKD patients."

OSTEOPROTEGERIN

FOR THE PREDICTION OF CARDIOVASCULAR MORTALITY

Osteoprotegerin as a predictor of renal and cardiovascular outcomes in renal transplant recipients: follow-up data from the ALERT study.

Svensson M et al., Nephrol Dial Transplant, 2012; 27: 2571-2575

"In a large cohort of kidney transplant patients with long-term follow-up, OPG was independently associated with renal events, CV events and mortality."

Serum osteoprotegerin is a predictor of progression of atherosclerosis and coronary calcification in hemodialysis patients.

Kurnatowska I et al., Nephron Clin Pract, 2011; 117(4): c297-304

"The plasma level of OPG could serve as a surrogate marker of progression of atherosclerosis and calcification in patients with end-stage renal disease."

Correlates of osteoprotegerin and association with aortic pulse wave velocity in patients with chronic kidney disease.

Sciolla J et al., Clin J Am Soc Nephrol, 2011; 6: 2612-2619

"These data support a strong relationship between serum OPG and arterial stiffness independent of many potential confounders including traditional cardiovascular risk factors..."

SCLEROSTIN

FOR THE DIAGNOSIS OF HIGH BONE TURNOVER IN CKD

Sclerostin serum levels correlate positively with bone mineral density and microarchitecture in haemodialysis patients.

Cejka D et al., Nephrol Dial Transplant, 2012; 27: 226-230

"Dialysis patients had significantly higher Sclerostin levels than controls".

Sclerostin and DKK-1 levels in pre-dialysis CKD patients.

Behets G et al., Nephrol Dial Transplant, 2012; 27: ii36-ii37

"Serum Sclerostin levels but not DKK-1 levels increase along the progression of renal disease."

The Relation between Renal Function and Serum Sclerostin in Adult Patients with CKD.

Pelletier S et al., Clin J Am Soc Nephrol, 2013; 8: 819-823

"...higher serum Sclerostin levels starting at CKD stage III."

Sclerostin: another bone-related protein related to all-cause mortality in haemodialysis?

Viaene L et al., Nephrol Dial Transplant, 2013; 10.1093/ndt/gft039

"Higher circulating Sclerostin levels were associated with decreased mortality in prevalent HD patients".