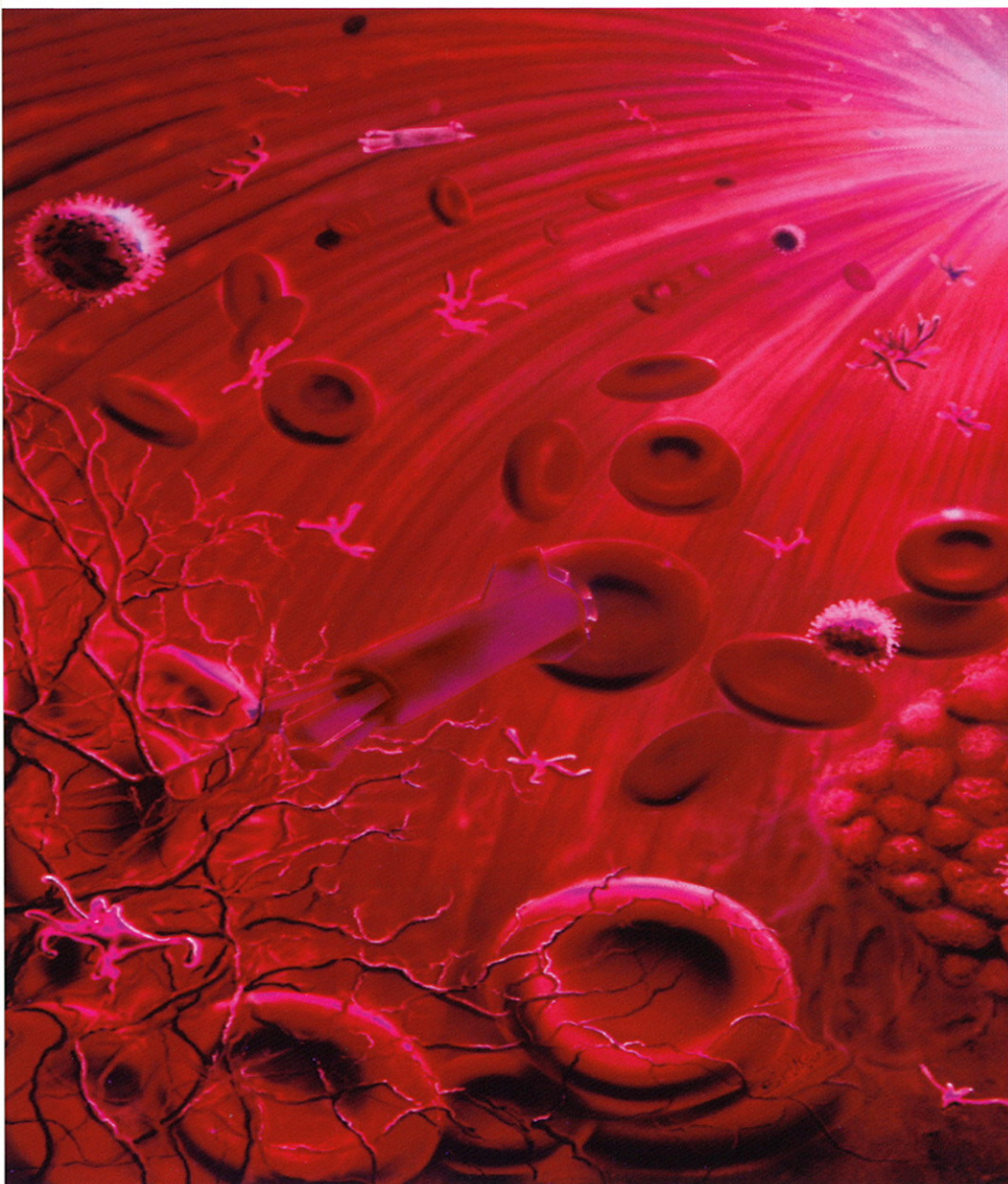


THE OXIDATIVE STRESS & ATHEROSCLEROSIS PRODUCT LINE

OXYSTAT . OXIDIZED LDL . ANTI OXIDIZED LDL . MATRIX GLA PROTEIN



- CORONARY DISEASE
- HYPERTENSION
- PERIPHERAL ARTERY
BLOCKAGE
- ATHEROSCLEROSIS
- DIABETES
- ACUTE SEPTICEMIA
- SYSTEMIC LUPUS
ERYTHEMATOSUS
- HEART VALVE CALCIFICATION

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THE OXIDATIVE STRESS & ATHEROSCLEROSIS PRODUCT LINE

BI-5007	OXYSTAT ASSAY
BI-20032	oLAB ELISA
BI-20042	OXIDIZED LDL ELISA
BI-20062	MGP ELISA

COLORIMETRIC ASSAY FOR THE QUANTITATIVE DETERMINATION OF PEROXIDES IN HUMAN SAMPLES, ENZYME IMMUNOASSAY FOR THE QUANTITATIVE DETERMINATION OF OXIDIZED LDL, AUTOANTIBODIES AGAINST OXIDIZED LDL AND MGP IN HUMAN SAMPLES



Atherosclerosis is initiated by the oxidation (elevated oxidative status) of Low Density Lipoprotein LDL. Oxidized LDL is accumulated in macrophages, which turn into foam cells afterwards. Foam cells are the initial step in the formation of atherosclerotic plaques.

Another important marker for atherosclerosis is Matrix Gla Protein MGP, an 84 amino acid protein which was originally identified in bone. MGP belongs to the group generally referred to as the vitamin K-dependent proteins or Gla proteins, which are known to bind calcium.

MGP accumulates in cartilage and vascular tissue, notably around sites at risk for calcification and around calcium salt deposits. So it is found highly elevated around calcified atherosclerotic plaques.

LITERATURE

Evaluation of the atherogenic tendency of lipids and lipoprotein content and their relationships with oxidant-antioxidant system in patients with psoriasis.

Vanizor Kural B. et al., Clin. Chim. Acta 2003, 328(1-2):71-82

Circulating autoantibodies to oxidized LDL correlate with impaired coronary endothelial function after cardiac transplantation.

Fang J. C. et al., Arterioscler. Thromb. Vasc. Biol. 2002, 22(12):2044-2048

Autoantibodies to malondialdehyde-modified low density lipoprotein in patients with angiographically confirmed coronary artery disease.

McDowell A. et al., J. Pharm. Pharmacol. 2002, 54(12):1651-1657

Matrix Gla protein (MGP) and bone morphogenetic protein-2 in aortic calcified lesions of aging rats.

Sweatt et al., J. Thromb. Haemost. 2003, 1(1):178-185

Matrix Gla protein accumulates at the border of regions of calcification and normal tissue in the media of the arterial vessel wall.

Spronk H. M. et al., Biochem. Biophys. Res. Commun. 2001, 289(2):485-490

Effect of N-acetyl-cysteine on the hypoxic ventilatory response and erythropoietin production: linkage between plasma thiol redox state and O₂ chemosensitivity.

Hildebrandt W. et al., Blood 2002, 99:1552-1555

ASSAY CHARACTERISTICS

OxyStat ELISA

Method	Colorimetric Assay, streptavidin HRP/TMB
Sample type	plasma, serum
Sample size	10 µl / test, 12x8 tests
Standard range	7 – 600 µmol/l
Detection limit	7 µmol/l
Incubation time	30 min

oLAB ELISA

Method	Sandwich ELISA, streptavidin HRP/TMB
Sample type	serum
Sample size	50 µl / test, 12x8 tests
Standard range	37 – 1200 mU/ml
Detection limit	37 mU/ml
Incubation time	3 h

Oxidized LDL ELISA

Method	Sandwich ELISA, streptavidin HRP/TMB
Sample type	plasma, serum
Sample size	10 µl / test, 12x8 tests
Standard range	0 – 250 ng/ml
Detection limit	1.2 ng/ml
Incubation time	4 h / 1 h / 30 min

Matrix Gla Protein ELISA

Method	competitive EIA, streptavidin HRP/TMB
Sample type	serum, cell culture supernatants
Sample size	20 µl / test, 12x8 tests
Standard range	0 – 90 nmol/l
Detection limit	0.3 nmol/l
Incubation time	overnight / 1 h / 30 min