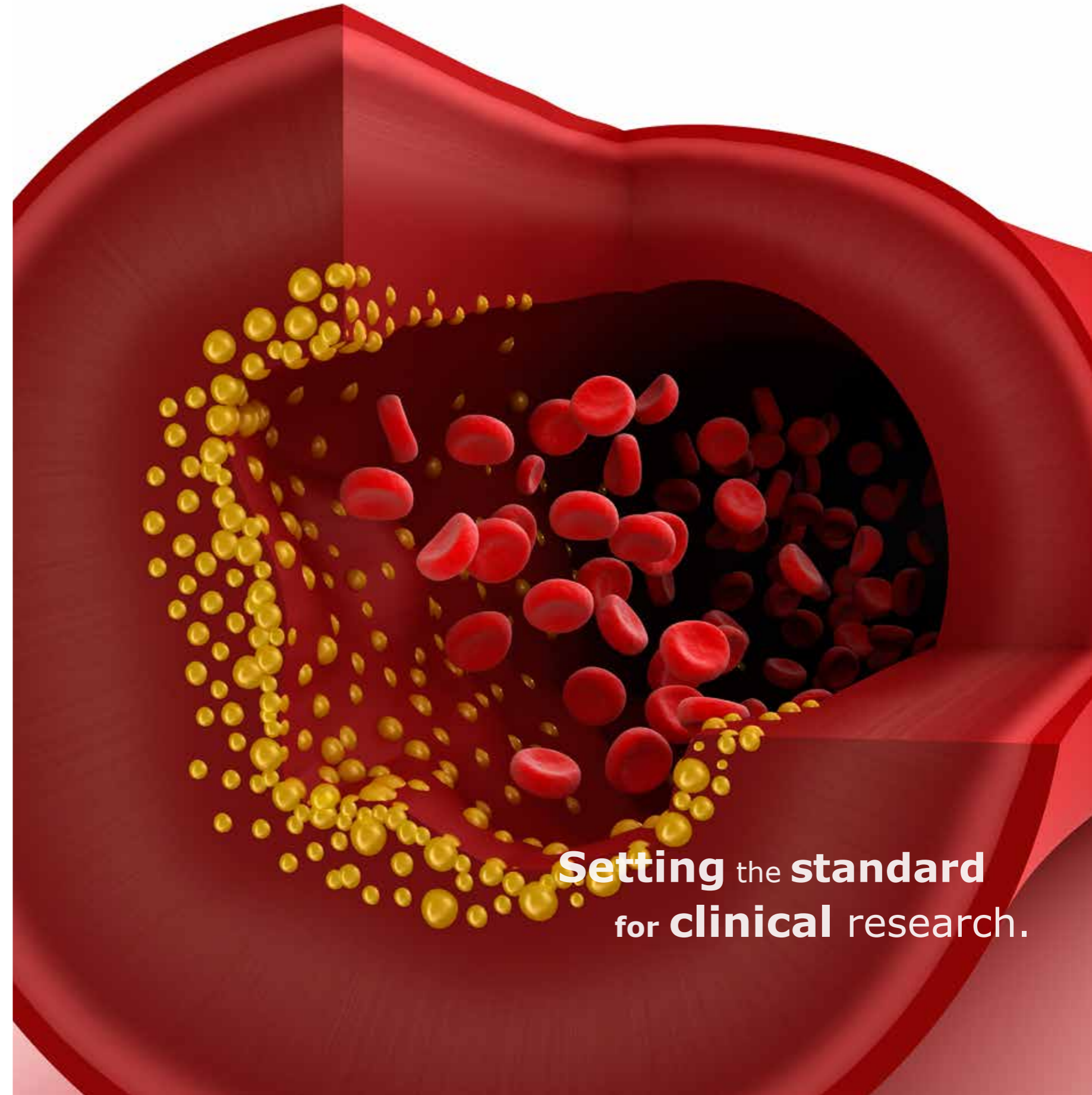


Setting the standard for clinical research.

THE OXIDATIVE STRESS &
ATHEROSCLEROSIS ELISA PRODUCT LINE



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THE OXIDATIVE STRESS & ATHEROSCEROSIS ELISA PRODUCT LINE

Enzyme immunoassays and colorimetric assay for the quantitative determination of peroxides, MDA-oxLDL and autoantibodies against oxidized LDL in human samples.

Oxidatively modified lipoproteins (oxLDLs) play an important role in the progression of atherosclerosis and coronary artery disease. Accumulation of oxLDL in macrophages and smooth muscle cells causes foam cell formation, an initial step in the disease. Low-density lipoprotein (LDL), the main carrier of plasma cholesterol, consists of a hydrophobic core and a surface monolayer of polar lipids and Apolipoprotein-B (ApoB). Oxidative stress and the consequent formation of free radicals lead to the peroxidation of ApoB. Malondialdehyde (MDA) has been identified as one of the major lipid peroxidation products of LDL, thus playing an important role in the LDL oxidation. The Biomedica MDA-oxLDL ELISA specifically detects MDA-modified ApoB in human serum and citrate-plasma.

Autoantibodies against oxidatively modified LDL can be used as a parameter that consistently mirrors the occurrence of oxidation processes taking place in vivo. The Biomedica oLAB ELISA has been developed to detect human IgG autoantibodies against oxLDL in human serum. Elevated levels of

autoantibodies against oxLDL have been detected in the blood stream of patients with coronary artery disease. Moreover, studies indicate a correlation between autoantibodies against oxLDL (oLAB) and the progression of carotid atherosclerosis. Increased serum concentrations of oLAB have also been described in various diseases such as pre-eclampsia and systemic lupus erythematosus. Decreased oLAB titers were observed during septicemia and myocardial infarction.

Cells and tissues are sensitive to oxidative stress, caused by the formation of free radicals. If not deactivated by antioxidants, organic peroxides and hydroperoxides are the first reaction products between cellular constituents and free radicals or other reactive oxygen derivatives. The Biomedica OxyStat assay measures the total peroxide concentration of a given sample. Results show a direct correlation between free radicals and circulating biological peroxides and thus allow the characterization of the oxidative status in biological samples.

Related products – markers of vascular calcification:

- **Osteoprotegerin ELISA** (BI-20403)
- **Sclerostin ELISA** (BI-20492)

Assay characteristics

OxyStat Assay (BI-5007) determination of peroxides in biological fluids

Method	Colorimetric Assay, HRP/TMB
Sample type	plasma, serum, biological fluids
Sample size	10 µl / test, 12x8 tests
Standard range	7 – 600 µmol/l
Detection limit	7 µmol/l
Incubation time	15 min

MDA-oxLDL ELISA (BI-20022) determination of oxidized LDL

Method	Sandwich ELISA, HRP/TMB
Sample type	plasma, serum
Sample size	20 µl / test, 12x8 tests
Standard range	0 – 10 µg/ml
Detection limit	0.3 µg/ml
Incubation time	90 min / 90 min / 30 min

oLAB ELISA (BI-20032) determination of autoantibodies against oxidized LDL

Method	Sandwich ELISA, 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	90 min / 30 min / 15 min

LITERATURE

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