

# COMPARISON OF TWO IMMUNOASSAYS FOR OXIDIZED LDL DETERMINATION



**LE GOFF C.(1), HALENG J.(1), DENOOZ A.(1), CHAPELLE J.P.(1)**  
 (1) Department of Clinical Chemistry, CHU, Liège, Belgium.  
 E-mail: [C.LeGoff@chu.ulg.ac.be](mailto:C.LeGoff@chu.ulg.ac.be)



## Background

Plasma oxidized LDL (oLDL) determination may be of interest for early assessment of atherosclerosis. The present study aimed at comparing two Enzyme-Linked ImmunoSorbent Assays (ELISA) newly developed by Biomedica and Immun Diagnostic for quantitative determination of oLDL in human plasma and serum.

## Materials and methods

We compared the analytical performances (precision, detection limit and linearity) of the two kits. Within-run precision was determined by measuring samples with low (n = 10), medium (n = 20) and high (n = 10) oLDL concentration; between-run precision by serial measurements of the same samples over a 13-day period. The detection limit was determined by repeated (n = 20) determinations of the zero standard, the linearity by measuring successive dilutions (n = 13) of samples with a oLDL concentration of 1189 ng/ml (Immun Diagnostics) and 1309 ng/ml (Biomedica). The correlation between the two techniques was analyzed using samples covering the whole range of oLDL concentrations (n = 20).

## Results

Mean intra-assay CVs were 2.68 and 5.52% for the Biomedica and Immun Diagnostics techniques. Mean inter-assay CVs were 7.07 and 8.18%, respectively. oLDL detection limits were 94 ng/ml (Biomedica) and 106 ng/ml (Immun Diagnostic) (Table 1). The Biomedica technique demonstrated a better linearity ( $R^2=0.995$ ) than the Immun Diagnostic method ( $R^2=0.987$ ) (Fig.1). The results given by the two techniques were however in close correlation ( $R^2=0.967$ ) (Fig.2).

Linearity

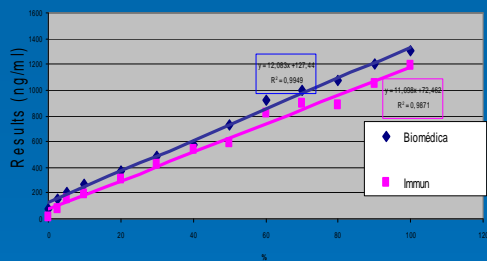


Fig.1

Correlation Biomedica-Immun

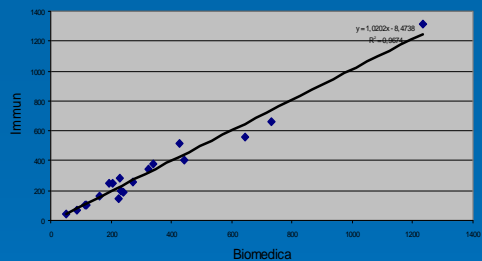


Fig.2

	n (Biomedica)	Biomedica	n (Immun Diagnostic)	Immun Diagnostic
CV intra-assay	12	2,68%	12	5,52%
CV inter-assay	13	7,07%	12	8,18%
Detection limit	20	94 ng/ml	20	106 ng/ml

Table 1

## Conclusion

The new immunoassays from Biomedica and Immun Diagnostic yielded plasma oLDL results in good correlation, but the performances of the Biomedica technique were better, particularly in terms of precision and detection limit.