

Glycated LDL ELISA

Manufacturer/ Trade Name: Exocell / Glycacor

Catalogue Number: 1009

Methodology: Indirect Competitive ELISA, Strip Plate

Summary of Procedure: Non-radioactive immunoassay for the quantitative determination of glycated LDL in plasma to evaluate glycemic control in diabetes, and to assess the contribution of the modified protein to vascular disease (1-4). The assay depends upon ES12, a monoclonal antibody directed against a specific epitope in glycated LDL (5). The glycated LDL is measured in apolipoprotein B equivalents, and is expressed as ug/mL or mg/dL. Glycacor is a competitive ELISA in a microplate format.

To complete the assay, the ES12 is added to a microtiter plate that contains immobilized glycated LDL and soluble glycated LDL (standard or experimental sample). The monoclonal antibody binds to either the immobilized glycated LDL or to the soluble phase glycated LDL during the primary incubation, hence the notion of competitive binding. Reactants in the fluid phase are subsequently washed away, and captured ES12 on the solid phase is detected with an enzyme conjugated anti-mouse antibody. The results are made quantitative after a chromogenic reaction with TMB.

Specimen Required: 20 uL Citrate or EDTA treated plasma

Assay Range: 3 - 40 ug/mL (corresponding to 0.3 - 4 mg/dL)

Precision: Intra- and interassay precision of samples within the useful range of the assay have a C. V. <10%.

Specificity: ES12 is specific for glycated LDL, and does not cross-react with other human plasma proteins including non-glycated LDL in either ELISA or Western Blot formats.

References:

1. Witztum, J. L., Mahoney, E. M., Branks, M. J., *et al.* Non-enzymatic glycosylation of low density lipoprotein alters its biologic activity. *Diabetes* **31**: 283-291. 1982.
2. Lorenzi, M., Cagliero, E., Markey, B., *et al.* Interaction of human endothelial cells with elevated glucose concentrations and native and glycosylated low density lipoprotein. *Diabetologia* **26**: 218-222. 1984.
3. Lyons, T. J., Baynes, J. W., Patrick, J. S., *et al.* Glycosylation of low density lipoprotein in patients with type I (insulin-dependent) diabetes: correlations with other parameters of glycemic control. *Diabetologia* **29**: 685-689. 1986.
4. Brown, M. S. and Goldstein, J. W. Scavenging for receptors. *Nature (London)* **343**: 508-509. 1982.
5. Shea, E. A. and Cohen, M. P. Immunologic detection of glycated apolipoprotein B with site specific monoclonal antibodies. *J. Immunolog. Meth.* **162**: 85-95. 1993.