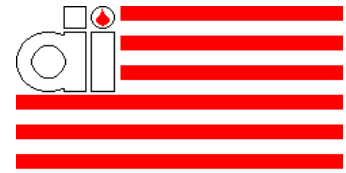


Glucocorticoid Receptor Activity Test - GR ActiQuant Oligo-ELISA



New Era of Glucocorticoid therapy planning

- Approximately 20% of the patients treated by glucocorticoids develop resistance to the therapy.
- These patients are unnecessarily exposed to the high risk of severe side effects due to increasing dosage of glucocorticoids during therapy.
- The diagnosis of a pre-existing or therapy induced steroid resistance can be made using the ActiQuant Oligo-ELISA kit and this can significantly reduce steroid-dependent secondary diseases.
- The test kit provides a simple and effective diagnostic method to screen the patients prior to steroid therapy for pre-existing steroid-response or resistance.

Indications

The New GR ActiQuant Oligo-ELISA allows to monitor and control steroid therapy in

- Asthma
- COPD
- Rheumatoid Arthritis
- Autoimmune Diseases

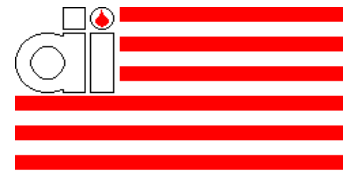
Comparison of GR ActiQuant Oligo-ELISA vs. EMSA method

GR ActiQuant Oligo-ELISA	EMSA (Electrophoretic Mobility Shift Assay)
Fast: Only 4 hours total testing time	Takes 2 - 3 days
Can easily be automated	Manual procedure
Ready to use assay reagents	Requires 3 - 4 hours of assay and sample preparation
Quantitative results	No quantitative results
Detects active and inactive GR	Detects only active GR
No radioactive exposure	Radioactive exposure

References

- Diagnostic and Screening Method. Specific assay reagents for quantitative determination of inactive and active form of the glucocorticoid receptor by a DNA enzyme-linked immune-sorbent assay. European Patent # 07150099.5-2402.
- Cell Density and Serum Exposure Modify the Function of the Glucocorticoid Receptor C/EBP Complex. Yang et al., Am J Respir Cell Mol Biol. 2008;38(4):414-22.

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Principle of the assay

The ActiQuant Oligo-ELISA assay format is an effective tool for the quantitative determination of active and/or inactive form of Glucocorticoid receptor (GR) in extracts of peripheral blood monocytes and other type of cells.

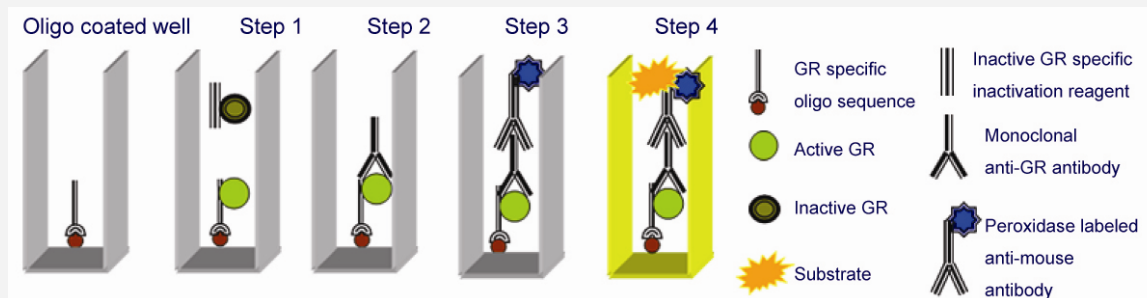
ActiQuant Oligo-ELISA contains a 96 well plate coated with GR specific DNA-oligonucleotide sequence on the surface. After treatment of cell extract samples with reaction buffer, samples and controls are pipetted into the wells of the microtiter plate. A binding between the active GR and GR-specific oligo sequence takes place. After 1 hrs of incubation at room temperature the test wells are rinsed with diluted wash buffer in order to remove unbound materials.

Key Features

- Simple 4 hours Test Procedure
- No use of radioactivity
- Works with whole blood samples
- Quantitative results
- Quantitative Measurement of either:
 - ▶ The ratio of active and inactive GR
 - ▶ Active GR alone
 - ▶ Total GR

A monoclonal antibody that binds to a specific epitope on GR protein added to the reaction wells and incubated for 1 hr at room temperature. The test wells are washed again in order to remove unbound antibodies. Subsequently, peroxidase labeled antibody is added and incubated for 1 hr at room temperature. After further washing, the substrate (TMB) solution is pipetted and incubated for 20 minutes at room temperature, inducing the development of a blue dye which is equivalent to the amount of GR in each sample. The color development is terminated by the addition of a stop solution, which changes the color from blue to yellow. The resulting dye is measured spectro-photometrically at the wavelength of 450 nm. The concentration of the GR is directly proportional to the intensity of the color.

Quantitative measurement of activated GR in presence of inactivation reagent



Quantitative measurement of Total GR

