MULTIPLATE IgA - IgG - IgM RID

Determination of the IgA – IgG – IgM protein, by radial immunodiffusion plate

TEST SUMMARY

The examined protein, diffusing in agarose gel containing a specific antibody will form an immuno-complex, visible as a ring around the well. The ring diameter is direct proportional to the concentration of the analysed protein. The proportion corresponds to the diffusion time. In fact, at the end (72 h for IgA and IgG; 96 h for IgM), the square of diameter will be in linear proportion to the concentration of the sample.
With the plate is supplied a reference table in which each diameter of the halo is associated a concentration.

SAMPLES

Serum, plasma. Stability 6 days at 4°C.

REAGENTS

Plate: Agarose gel containing the goat antiserum IgA, IgG, IgM.

REAGENTS PREPARATION AND STORAGE

The plates are ready to use.
The reagents are stable until expiration date on the label if preserved horizontal at 2-8°C.

Stability after opening: two weeks if, after the first use, is preserved well closed at 2-8°C.
The plate can be used for further 2 weeks checking the accuracy by a control serum.

MATERIALS REQUIRED BUT NOT SUPPLIED

Micropipette to 5 µl, slide rule, lens of measure, current laboratory instrumentation.

PRECAUTIONS

Reagent may contain some non-reactive and preservative components. It is suggested to handle carefully it, avoiding contact with skin and swallow.
Perform the test according to the general "Good Laboratory Practice" (GLP) guidelines.

PROCEDURE

Remove the plate from its envelope and leave to stand at room temperature for few minutes so that any condensed water in the wells can evaporate. Fill the wells with 5 µl of sample and/or controls and wait it has been completely adsorbing before handling the plate. Close the plate and place it in a moist chamber for the time necessary to perform the analysis (for IgA and IgG 72 h, for IgM 96 h).

RESULTS INTERPRETATION

Measure the precipitating ring with an appropriate ruler or measuring lens however a system which provides a maximum error of 0.1 mm. Read on enclosed reference table the concentration value corresponding to the precipitating ring diameter.
The control serum, to be used always, should give a ring which differs by a maximum of 0.2 mm from the value reported in the table.

Reading 18 hours for IgA and IgG or 36 hours for IgM (kinetic method)

You can read the results after 18 hours (IgA or IgG) or after 36 hours (IgM) of the sample deposition, although the growth of the zones is not yet complete. In this case it is necessary to deposit at least 3 controls with different values.
Curve that plots the square of the precipitating ring and the logarithm of the concentrations of the controls. You should get a interpolating curve that can be approximated to a straight line only for low values while for higher values may be bent slightly. The values of the samples are determined by interpolation.

NOTES

- The diffusion time and the reading time depend on the concentration and the specific diffusion protein. After 72 h for IgA and IgG or 96 h for IgM the diffusion of the protein at any concentration is completed. For lower concentration it is possible to read in lower times (i.e. 36 h), however in such cases it is advisable to read again after 3/5 hours. If the diameter is still the same it is possible to set the concentration, on the contrary, if the diameter is different, ring should be remeasured after a further 3/5 hours.
- The reference table attached is valid only for the specific lot of the plate. Do not use with different lot.

CALIBRATION

It is suggested to perform an internal quality control. For this purpose is available on request the following human serum titred suitable for use as a calibrator or control:

IC00200 Serumprotein Calibrator 7 Parameters (for α-1 acid Glycoprotein, C3, C4, IgA, IgG, IgM and Transferrin)

TEST PERFORMANCE

Methods comparison

A comparison between LTA and a commercially available product gave the following results on 70 samples:

IgA LTA = x
IgA competitor = y
n = 70

y = 1,001x + 2,964 r = 0,97143

IgG LTA = x
IgG competitor = y
n = 70

y = 0,9835x + 23,161r = 0,99942

IgM LTA = x
IgM competitor = y
n = 70

y = 0,989x + 2,17 r = 0,9995

Precision

IgA

Intra-assay (n= 10)	Mean	SD (mg/dl)	CV %
Sample 1	298.98	5.31	1.78
Sample 2	453.10	7.07	1.56

Inter-assay (n= 20)	Mean	SD (mg/dl)	CV %
Sample 1	299.62	6.19	2.07
Sample 2	454.61	6.68	1.47

IgG

Intra-assay (n= 10)	Mean	SD (mg/dl)	CV %
Sample 1	1299.80	20.78	1.60
Sample 2	1869.18	26.68	1.43

Inter-assay (n= 20)	Mean	SD (mg/dl)	CV %
Sample 1	1302.32	21.90	1.68
Sample 2	1863.52	25.23	1.35

IgM

Intra-assay (n= 10)	Mean	SD (mg/dl)	CV %
Sample 1	101.00	2.59	2.57
Sample 2	270.60	3.37	1.25

Inter-assay (n= 20)	Mean	SD (mg/dl)	CV %
Sample 1	102.10	2.30	2.25
Sample 2	268.60	4.05	1.51

Measure's limit

IgA	70 – 1050 mg/dl
IgG	300 – 3500 mg/dl
IgM	40 – 500 mg/dl

WASTE DISPOSAL

This product is made to be used in professional laboratories. Please consult local regulations for a correct waste disposal.

EXPECTED VALUES

IgA	90 – 450 mg/dl
IgG	800 – 1800 mg/dl
IgM	60 – 280 mg/dl

Clinical relevance

The IgA / IgG / IgM (immunoglobulin A / G / M) are antibodies synthesized by B lymphocytes, and more specifically by plasma cells.
An increase can be observed in the case of chronic liver diseases (infectious, autoimmune, toxic alcohol, etc..), Chronic infections (tuberculosis, fungal infections, endocarditis), collagen, myeloma.
A deficiency occurs in the case of selective or transitory hypogammaglobulinemia, burns, nephrotic syndrome.
As with any diagnostic procedure, if the results are inconsistent with the clinical presentation, the physician should evaluate data obtained using this test in light of other clinical information.

PACKAGING

CODE	**RK01050**
Multiplate IgA -IgG -IgM	3 x 5 wells

REFERENCES

Mancini & coll.-Immunochemistry. 2:235 (1965)
Fahey & coll.- J. Immunol. 94 : 84 (1965)

MANUFACTURER

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SYMBOLS

IVD	For in vitro diagnostic use only
LOT	Lot of manufacturing
REF	Code number
	Storage temperature interval
	Expiration date
	Warning, read enclosed documents
	Read the directions
	Biological risk

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