Dako

THE SHAPE OF EXCELLENT
LABORATORY PERFORMANCE

Immunoglobulins | Protein Test Systems for Turbidimetry and Nephelometry

- High Quality
- Reliable results
- Detailed working procedure for automated instruments

Let's connect.

To maximize quality

IgA, IgG, IgM, Kappa Light Chains and Lambda Light Chains – Test Systems for Turbidimetry and Nephelometry

Immunoglobulins are proteins synthesized by plasma cells, showing antibody activity. Detection of low levels of immunoglobulins in serum or plasma is essential in e.g. the diagnosis and monitoring of primary and secondary immuno-deficiencies. Dako´s immunoglobulin product range for turbidimetry and nephelometry counts IgA, IgG, IgM, Kappa light chains and Lambda light chains.

Each assay includes the entire match of antibody, calibrator and controls. The assays are based on the reaction between antigen and antibody. When rabbit antibody reacts with the corresponding antigen, immune complexes are formed which can be measured turbidimetrically. Application notes for instruments like Hitachi™ and Modular™ are available for each product.

IgA is a monomeric protein with a molecular mass of 160kDa. The role of IgA in the resistance against infections is essential and represents the first immunological barrier against invasions by pathogens through mucous surfaces.

IgG accounts for 75% of the plasma immunoglobulins in adults and protects the tissue by aggregating to bacterial toxins and thereby enhancing the clearance.

IgM normally circulates in the plasma in a pentameric form, consisting of five monomers covalently bound by disulphide bonds. IgM circulates in a lower concentration than IgA and IgG and contributes with about 5-10% of the plasma immunoglobulins.

Kappa light chains and lambda light chains

Kappa light chains are 23 kD, 214 amino acid polypeptide chains comprised of a single variable region and a single constant region. The other type of light chain is lambda. Only one type of light chain, either lambda or kappa, is produced in an individual cell. For the normal B-cell population, 60% of human immunoglobulin light chains are kappa and the other 40% are lambda.

Calibrators, controls and diluent to use in all test-systems

For all five test systems, the same calibrators, controls and diluents applies, please see table 1 below:

Reagents

	Code	Name
Diluent	S 2005	Dako Diluent Buffer 1
Calibrator	X 0908	Dako Human Serum Protein Calibrator
Controls	X 0939	Dako Human Serum Protein Low Control
	X 0940	Dako Human Serum Protein High Control

Table 1

IgA Protein Test System for Turbidimetry and Nephelometry

Detection limit: The detection limit is estimated to 0.13 g/L

Precision: The precision was estimated by testing samples at 3 different IgA levels by ANOVA analysis of 6 runs each with a new calibration and 6 determinations in each run.

Sera	IgA Mean value g/L	Standard deviation g/L			Total CV (%)	n
		Within run	Between run	Total		
1	1.22	0.018	0.048	0.051	4.2	36
2	2.31	0.020	0.098	0.100	4.4	36
3	3.23	0.033	0.129	0.133	4.1	36

Reagents

	Code	Name
Antibody	Q 0332	Dako Polyclonal Rabbit Anti-Human IgA
Reaction buffer	S 2006	Dako Reaction Buffer 3

IgG Protein Test System for Turbidimetry and Nephelometry

Detection limit: The detection limit is estimated to 0.2 g/L

Precision: The precision was estimated by testing samples at 3 different IgG levels by ANOVA analysis of 6 runs each with a new calibration and 6 determinations in each run.

Sera	IgG Mean value g/L	Standard deviation g/L			Total CV (%)	n
		Within run	Between run	Total		
1	9.81	0.159	0.022	0.160	1.6	36
2	18.74	0.164	0.190	0.251	1.3	35
3	27.95	0.229	0.249	0.338	1.2	33

Reagents

	Code	Name
Antibody	Q 0331	Dako Polyclonal Rabbit Anti-Human IgG
Reaction buffer	S 2006	Dako Reaction Buffer 3

IgM Protein Test System for Turbidimetry and Nephelometry

Detection limit: The detection limit is estimated to 0.02 g/L

Precision: The precision was estimated by testing samples at 3 different IgM levels by ANOVA analysis of 6 runs each with a new calibration and 6 determinations in each run.

Sera	IgM Mean value g/L	Standard deviation g/L			Total CV (%)	n
		Within run	Between run	Total		
1	2.01	0.025	0.043	0.049	2.4	27
2	0.81	0.007	0.005	0.009	1.1	35
3	2.03	0.017	0.032	0.037	1.8	36

Reagents

	Code	Name
Antibody	Q 0333	Dako Polyclonal Rabbit Anti-Human IgM
Reaction buffer	S 2006	Dako Reaction Buffer 3

Kappa Light Chains Protein Test System for Turbidimetry and Nephelometry

Detection limit: The detection limit is estimated to 0.05 g/L

Precision: The precision was estimated by testing samples at 3 different kappa light chain levels by ANOVA analysis of 6 runs each with a new calibration and 6 determinations in each run.

	Kappa Mean	Standard deviation g/L				
Sera	value g/L	Within run	Between run	Total	Total CV (%)	n
1	2.26	0.052	0.051	0.072	3.2	30
2	4.60	0.035	0.115	0.120	2.6	29
3	6.82	0.076	0.079	0.110	1.6	30

Reagents

	Code	Name
Antibody	Q 0498	Dako Polyclonal Rabbit Anti-Human Kappa Light Chains
Reaction buffer	S 2007	Dako Reaction Buffer 1

Lambda Light Chains Protein Test System for Turbidimetry and Nephelometry

Detection limit: The detection limit is estimated to 0.10 g/L

Precision: The precision was estimated by testing samples at 3 different samples at 3 different lambda light chain levels by ANOVA analysis of 6 runs each with a new calibration and 6 determinations in each run.

	Lambda Mean	Standard deviation g/L				
Sera	value g/L	Within run	Between run	Total	Total CV (%)	n
1	1.33	0.009	0.022	0.024	1.8	36
2	1.72	0.010	0.022	0.025	1.4	36
3	3.44	0.024	0.030	0.038	1.1	36

Reagents

	Code	Name
Antibody	Q 0499	Dako Polyclonal Rabbit Anti-Human Lambda Light Chains
Reaction buffer	S 2007	Dako Reaction Buffer 1

IgA, IgG, IgM, kappa light chains and lambda light chains are also available as antibodies for miscellaneous purposes. Please contact your distributor for further information.

EU regulatory status:

CE – IVD (Complies with Directive 98/79/EC of the European Parliament and of the Council on *in vitro* diagnostic medical devices).

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