

DIRECTORY OF SERVICES

Area of analysis: Clinical Chemistry

Mode of Analysis:

Optical Detection Techniques (Photometry/Fluorimetry/Light scattering/Flow cytometry)

Analyte	Sample material	Detection technique	SOP/Version	Instrument
ADNase B	Plasma, Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
AGE (Advanced Glycation End Products)	Plasma	Fluorimetry	AA-033/Version 02/05.2007	
Albumin	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Antioxidative Capacity (ImAnOx)	Plasma	Photometry	AA-018/Version 01/05.2005	Biotek EL 808
Antistreptolysin (ASL)	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Antithrombin III	Plasma	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
α 1-Antitrypsin	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Apolipoprotein A-I	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Apolipoprotein A-II	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Apolipoprotein B	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Apolipoprotein E	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Apoptose / Annexin V	Blood	Flow cytometry	AA-020/Version 01/05.2005	BD FACScan
C1-Inhibitor	Plasma, Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Calcium	Plasma, Serum, Dialysate, Filtrate	Photometry	AA-057/Version 02/05.2008	Roche cobas c-111
Carbohydrate-Deficient Transferrin	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Coeruloplasmin	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
CR3 (CD11b/CD18)	Blood	Flow cytometry	AA-006/Version 01/05.2005	BD FACScan
C-reactive Protein (CRP)	Plasma, Serum	Nephelometrie	AA 014/Version 03/07.2008	Behring BN-ProSpec

generated:	released:
date: 18.03.2010	date: 18.03.2010

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Analyte	Sample material	Detection technique	SOP/Version	Instrument
Creatinine	Plasma, Serum, Dialysate, Filtrate	Photometry	AA-057/Version 02/05.2008	Roche cobas c-111
Cystatin C	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Endotoxin	Dialysate, Filtrate	Turbidimetry	AA-013/Version 03/05.2009	Biotek EL 808
Ferritin	Plasma, Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Fibrinogen	Plasma	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Fibronectin	Plasma	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Glucose	Plasma, Serum, Dialysate, Filtrate	Photometry	AA-057/Version 02/05.2008	Roche cobas c-111
Haemoglobin	Plasma, Serum	Photometry	AA-056/Version 01/05.2008	Shimadzu UV-1650PC
Haemoglobin Derivatives	Blood, Plasma	Photometry	APO-43	AVL OMNI 1-9
Haemopexin	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Haptoglobin	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Urea	Plasma, Serum, Dialysate, Filtrate	Photometry	AA-057/Version 02/05.2008	Roche cobas c-111
HDL-Cholesterol	Plasma, Serum, Dialysate, Filtrate	Photometry	AA-057/Version 02/05.2008	Roche cobas c-111
Heparin	Plasma	Photometry	AA-002/Version 02/05.2007	Biotek EL 808
Homocystein	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Ig/L-chain, Type kappa	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Ig/L-chain, Type lambda	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Immunoglobulin A (IgA)	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Immunoglobulin E (IgE)	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Immunoglobulin G (IgG)	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Immunoglobulin G (IgG) Subclass 1	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Immunoglobulin G (IgG) Subclass 2	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Immunoglobulin G (IgG) Subclass 3	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec

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Analyte	Sample material	Detection technique	SOP/Version	Instrument
Immunoglobulin G (IgG) Subclass 4	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Immunoglobulin M (IgM)	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Inulin	Dialysate	Photometry	AA-048/Version 04/07.2008	Shimadzu UV-1650PC
Complement factor C3c	Plasma, Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Complement factor C4	Plasma, Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Lactate	Plasma, Serum, Dialysate, Filtrate	Photometry	AA-057/Version 02/05.2008	Roche cobas c-111
Lipoprotein (a)	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
soluble Transferrin-Receptor	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
α 2-Macroglobulin	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
β 2-Microglobulin	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
α 1-Microglobulin	Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Myoglobin	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Oxidative Burst	Blood	Flow cytometry	AA-021/Version 01/05.2005	BD FACScan
Peroxide (PerOX)	Plasma	Photometry	AA-019/Version 03/08.2009	Biotek EL 808
Phosphate	Plasma, Serum, Dialysate, Filtrate	Photometry	AA-057/Version 02/05.2008	Roche cobas c-111
Plasminogen	Plasma	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Prealbumin	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Retinol binding Protein (RBP)	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
rheumatoid factor (RF)	Plasma, Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
α 1-acidic Glycoprotein	Plasma, Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Serum Amyloid A Protein (SAA)	Plasma, Serum	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Total Protein	Plasma, Serum, Dialysate, Filtrate	Photometry	AA-057/Version 02/05.2008	Roche cobas c-111
Transferrin	Serum, Dialysate, Filtrate	Nephelometry	AA 014/Version 03/07.2008	Behring BN-ProSpec
Vitamin B12	Dialysate	Photometry	AA-047/Version 01/02.2007	Shimadzu UV-1650PC

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Area of analysis: Clinical Chemistry

Mode of Analysis:

Ligand assays

Analyte	Sample material	Detection technique	SOP/Version	Instrument
HMW-Adiponectin	Plasma	ELISA	instructions from the supplier	Biotek EL 808
Total-Adiponectin	Plasma	ELISA	instructions from the supplier	Biotek EL 809
ADMA	Plasma	ELISA	AA 049/Version 03/05.2009	Biotek EL 810
Advanced Oxidation Protein Products (AOPP)	Plasma	ELISA	AA 031/Version 02/05.2009	Biotek EL 811
Apolipoprotein C3	Plasma	ELISA	instructions from the supplier	Biotek EL 813
Bisphenol A (BPA)	Plasma, Serum	ELSIA	AA 030/Version 01/05.2005	Biotek EL 814
BNP	Plasma	ELISA	instructions from the supplier	Biotek EL 815
Bradykinin	Plasma	ELISA	AA 017/Version 03/05.2009	Biotek EL 816
Carbonylproteins	Plasma	ELISA	AA 068/Version 01/10.2009	Biotek EL 817
Erythropoetin (EPO)	Plasma	ELISA	AA 053/Version 01/05.2007	Biotek EL 818
Fetuin A	Plasma	ELISA	instructions from the supplier	Biotek EL 819
FGF23	Plasma	ELISA	instructions from the supplier	Biotek EL 820
HCV (Anti HCV)	Plasma	ELISA	AA-008/Version 01/05.2005	Biotek EL 812
Hepatitis (HBS Ag)	Plasma	ELISA	AA-007/Version 01/05.2005	Biotek EL 821
Insulin	Plasma	ELISA	AA-054/Version 01/05.2007	Biotek EL 822
Interleukin-1 β	Plasma	ELISA	AA-012/Version 07/05.2009	Biotek EL 823
Interleukin-6	Plasma	ELISA	AA-038/Version 02/05.2007	Biotek EL 824
15-Isoprostane F2t	Plasma	ELISA	instructions from the supplier	Biotek EL 825
Complement factor C5a	Plasma	ELISA	AA-004/Version 02/02.2009	Biotek EL 826
Leptin	Plasma	ELISA	instructions from the supplier	Biotek EL 827
Myeloperoxidase (MPO)	Plasma	ELISA	AA 024/Version 04/08.2009	Biotek EL 828
ox LDL	Plasma	ELISA	AA 036/Version 03/07.2008	Biotek EL 829

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Analyte	Sample material	Detection technique	SOP/Version	Instrument
Platelet factor 4 (PF4)	Plasma	ELISA	AA 015/Version 04/05.2009	Biotek EL 830
PMN Elastase	Plasma	ELISA	AA 022/Version 01/05.2005	Biotek EL 831
Prolactin	Plasma	ELISA	AA-052/Version 01/05.2007	Biotek EL 832
SDMA	Plasma	ELISA	instructions from the supplier	Biotek EL 833
Thrombin-Antithrombin III-Complex (TAT)	Plasma	ELISA	AA-003/Version 02/04.2007	Biotek EL 834
TNF- α	Plasma	ELISA	AA-029/Version 02/07.2008	Biotek EL 835
Cell death	Plasma	ELISA	AA 025/Version 01/05.2005	Biotek EL 836

Area of analysis: Clinical Chemistry

Mode of Analysis:

Chromatographic techniques

Analyte	Sample material	Detection technique	SOP/Version	Instrument
Amino acids	Plasma, Serum, Dialysate	HPLC	AA-016/Version 02/05.2007	
Indoxyl sulfate	Plasma	HPLC	AA-060/Version 02/05.2009	
MDA	Plasma	HPLC	AA 061/Version 01/07.2008	
p-Cresyl glucuronid	Plasma	HPLC	AA-060/Version 02/05.2009	
p-Cresyl sulfate	Plasma	HPLC	AA 060/Version 02/05.2009	
Relative molecular weight (M_r) of proteins	Plasma, Serum, Hemofiltrate	SDS-Gelelectrophoresis	AA 051/Version 01/04.2007	

Area of analysis: Clinical Chemistry

Mode of Analysis:

Physico-chemical techniques

Analyte	Sample material	Detection technique	SOP/Version	Instrument
Na^+	Plasma, Serum, Dialysate, Filtrate	Potentiometry	APO-43	AVL OMNI 1-9
K^+	Plasma, Serum, Dialysate, Filtrate	Potentiometry	APO-43	AVL OMNI 1-9
Cl^-	Plasma, Serum, Dialysate, Filtrate	Potentiometry	APO-43	AVL OMNI 1-9
Ca^{2+}	Plasma, Serum, Dialysate, Filtrate	Potentiometry	APO-43	AVL OMNI 1-9
pH	Plasma, Serum, Dialysate, Filtrate	Potentiometry	APO-43	AVL OMNI 1-9
PO_2	Blood	Amperometry	APO-43	AVL OMNI 1-9
PCO_2	Blood	Potentiometry	APO-43	AVL OMNI 1-9
Hämatokrit	Blood	Centrifugation	AA-060/Version 01/09.2007	

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Area of analysis: Clinical Chemistry

Mode of Analysis:

Cell counting using automated procedures

Analyte	Sample material	Detection technique	SOP/Version	Instrument
Blood cells Thrombocytes Erythrocytes Leukocytes	Blood	Counting of particles/cells with impedancemetry	AA-005/Version 03/09.2008	ABX Pentra 60

Area of analysis: Clinical Chemistry

Mode of Analysis:

in vitro Cytotoxicity

Indicator	Sample material	Detection technique	SOP/Version	
<i>in vitro</i> Cytotoxicity according to ISO 10993-5	Aqueous solutions	Determination of vitality of L929 oder HepG2 cells	AA-035/Version 02/05.2009	

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Area of analysis: *in vitro* evaluation of medical devices

Mode of Analysis:

Biocompatibility tests

Procedure	Sample material	Method	SOP/Version	
Evaluation of the biocompatibility of hemodialyzers according to EN 10993-4 (<i>in vitro</i>)	Hemodialyzers	Recirculation model using heparinized human blood	AA-001/Version 05/05.2009	
Pyrogen retention (<i>in vitro</i>)	Hemodialyzers	<i>In vitro</i> Hemodialysis, induction of cytokinins	AA-011/Version 03/05.2009	
Evaluation of the biocompatibility of polymer films according to ISO 10993-4 (<i>in vitro</i>)	Flat sheets, polymer films, flat membranes	Incubation with heparinized human blood	AA-010/Version 03/05.2009	
Evaluation of the biocompatibility of adsorbers according to ISO 10993-4 (<i>in vitro</i>)	Adsorber moduls	Recirculation model using heparinized human blood	AA 050/Version 01/04.2007	
Evaluation of the biocompatibility of miniaturized dialyzers following EN 10993-4 (<i>in vitro</i>)	Miniaturized dialyzers	Recirculation model using heparinized human blood	AA 058/Version 01/04.2008	

Area of analysis: *in vitro* evaluation of medical devices

Mode of Analysis:

Quality tests

Procedure	Sample material	Method	SOP/Version	Instrument
Batch Release of Heparin Adsorbers	Adsorber devices	Rezirculation model using heparinized human blood	AA-063/Version 01/09.2008	
Evaluation of Redness of Hemodialyzers after use	Hemodialyzers	Image analysis	AA-067/Version 01/02.2009	Minolta Chroma-Meter CR-310

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Area of analysis: in vitro evaluation of medical devices

Mode of Analysis:

Determination of performance of medical devices

Procedure	Sample material	Method	SOP/Version	Instrument
Low molecular weight solute clearance according to EN 1283 (<i>in vitro</i>)	Hemodialyzers	<i>In vitro</i> Hemodialysis	AA-039/Version 05/05.2009	Hemodialysis machine
Determination of sieving coefficients according to EN 1283 (<i>in vitro</i>)	Hemodialyzers	<i>In vitro</i> Hemodialysis	AA-040/Version 03/05.2009	Hemodialysis machine
Clearance of β_2m and other plasma proteins (<i>in vitro</i>)	Hemodialyzers	<i>In vitro</i> Hemodialysis	AA-041/Version 01/11.2006	Hemodialysis machine
Albumin loss during Hemodialysis und Hemodiafiltration (<i>in vitro</i>)	Hemodialyzers	<i>In vitro</i> Hemodialysis	AA 041/Version 01/11.2006	Hemodialysis machine
Determination of TMP (<i>in vitro</i>)	Hemodialyzers	<i>In vitro</i> Hemodialysis	AA 042/Version 01/10.2006	Hemodialysis machine
Determination of performance parameters (clearance, sieving coefficient, albumin loss) of miniaturized dialyzers	miniaturized dialyzers	<i>In vitro</i> Hemodialysis using miniaturized dialyzers	AA 059/Version 01/05.2008	
Determination of UFR and KUF according to ANSI / AAMI RD16	Hemodialyzers	<i>In vitro</i> Hemodialysis	AA 065/Version 01/11.2008	Hemodialysis machine
Isolation of proteins from hemofiltrate of uremic patients	Hemofiltrate	Ultrafiltration, Chromatography	AA-037/Version 02/05.2007	