





## KBUDEK EXTERNAL QUALITY ASSESSMENT PROGRAMS

Turkish Society of Clinical Biochemistry Specialists is a non-profit organization providing International External Quality Assessment Programs (KBUDEK) for clinical laboratories with respect to the diagnosis and treatment of patients.

Established in 2005, KBUDEK provides reliable External Quality Assessment Programs at substantial cost savings for public and private clinical laboratories. The primary aim is to contribute to quality assessment and improvement of clinical laboratories operating within this field.

Currently a total of 21 comprehensive EQA programs are available covering a wide range of diagnostic testing.

Several flexible program options are available allowing laboratories to customize the program to suit their unique requirements.

KBUDEK is accredited to ISO/IEC 17043:2010 “Conformity assessment – General requirements for proficiency testing”. This standard demonstrates our commitment to quality whilst providing both participants and accrediting bodies with confidence in the schemes operation.

KBUDEK is constantly expanding with the introduction of new programs and the addition of new parameters to existing programs. Please visit [www.kbudek.com](http://www.kbudek.com) for up-to-date information.

100% satisfaction was obtained from the surveys conducted to evaluate our customers' satisfaction with KBUDEK.



KBUDEK EQA programs provide ISO/IEC 17043 accredited programs that are accepted by National and International Accreditation Bodies worldwide.

- High level of participation
- Reliable External Quality Assessment Programs at substantial cost savings for public and private clinical laboratories
- Analyte levels covering normal and abnormal ranges, and clinical thresholds
- Technical support from experienced laboratory professionals
- Regular reports with rapid turnaround time
- User friendly software
- User friendly, easy-to-read reports
- 100% satisfaction

## User friendly software

- Online submission of the External Quality Control results
- Once the measurement values are submitted, confirmation e-mails are sent
- Notification with SMS/e-mail once the evaluation reports are available
- Download of Evaluation reports and Certificates (Certificate of Performance, Certification of Participation)
- Asking questions/sending requests via software's e-mail infrastructure and/or whatsapp line.
- No schedules to memorize for testing and submission of results- website is open to entry of results throughout the month in which the sample will be tested and due date is always the last date of that month.
- Reports that are timely, confidential, accurate and clinically useful.
- Summary performance page for all tests in the program.

## KBUDEK Reports

- *Quantitative reports*- Detailed individual statistical analysis and peer group comparisons, information about present and past laboratory test performances in the form of Levey-Jennings charts, histograms, % Deviation by Sample and % Deviation by Concentration charts, information about other participating method/instrument performances
- *Qualitative reports* : Detailed information about the distribution of data and the peer group consensus, quick visualization of your performance with bar graphs and modified Levey-Jennings charts, information about other participating method/instrument performances
- *Instrument Comparison Report*: If more than one instrument is used for the same test, a comparative and graphical bias and SDI (z-score) report containing all of these instruments is given on one page. Instead of tracking the performance of instruments in separate reports, it provides the opportunity to review on a single page and for 12 months retrospectively.
- *End-of-cycle report*: An overall assessment of laboratory performance over the entire cycle (with statistics and charts)
- *Total Analytic Error report*: By submission of IQC CV% for each test (up to 3 levels) on our website, TAE report in terms of sigma metrics and %Deviation against set performance criteria created by you or key regulatory and scientific organizations (eg. CLIA, EFLM) can be generated easily.

## KBUDEK EQA PROGRAMS

### BLOOD GAS PROGRAMS

- Liquid, aqueous
- 4/6/12 month cycle
- 1.8 mL



#### Analyte

Calcium, ionized	Lactate	pH
Chloride	Potassium	pO <sub>2</sub>
CO <sub>2</sub> , total	pCO <sub>2</sub>	Sodium
Glucose		

### BLOOD BANK PROGRAMS

- Ideal for both manual and automated analysis
- 2 cycles /4 cycles
- 2 Patient x 2 donor samples quarterly
- Evaluation according to WHO guideline

#### Analyte

ABO group (Forward/Reverse)	Cross-Match (Compatibility)	Rh (D) (Forward/Reverse)
Antibody Identification	DAT (Direct Antiglobulin Test)	Rh Phenotyping
Antibody Screen		

### CARDIAC MARKERS PROGRAMS

- Human serum based
- Lyophilized
- 4/6/12 month cycle
- 2 ml samples

#### Analyte

BNP	Digoxin	NT-proBNP
CK-MB (Activity)	hs CRP	Troponin I
CK-MB (mass)	Homocysteine	Troponin T
CK total	Myoglobin	

### CLINICAL CHEMISTRY PROGRAMS

- Human serum based
- Lyophilized
- 4/6/12 month cycle
- 5 ml samples

#### Analytes

Albumin	Chloride	Glucose	Potassium
Alkaline phosphatase	Cholesterol (Total)	Iron	Protein total
ALT	Cholesterol (HDL)	Lactate	Sodium
Amylase	Cholesterol (LDL)	LDH	TIBC
AST	CK total	Lipase	Triglycerides
Bicarbonate	Copper	Lithium	Urea
Bilirubin (Total)	Creatinine	Magnesium	Uric acid
Bilirubin (Direct)	Gamma GT	Phosphate, inorganic	Zinc
Calcium			



## COAGULATION (MONTHLY) PROGRAMS

- Human plasma based
- Lyophilized
- 4/6/12 month cycle
- 1 ml samples

### Analyte

aPTT	Fibrinogen
D-Dimer	PT/INR

## COAGULATION SPECIALITY PROGRAMS

- Human plasma based
- Lyophilized
- 1 sample tested every 3 months
- 1 ml samples

### Analyte

Active Protein C resistance	Factor IX	Protein C
Antithrombin III	Factor X	Protein S
Factor II	Factor XI	Thrombin Time (TT)
Factor V	Factor XII	vWF Ag
Factor VII	Plasminogen	vWF Activity (Ristocetin cofactor)
Factor VIII	Prothrombin Time	

## ERYTHROCYTE SEDIMENTATION RATE (ESR) PROGRAM

- Liquid, ready to use
- 2 Samples tested quarterly
- 2.0 ml samples
- Register up to 5 instruments per program at no extra cost

### Analyte

ESR
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## ETHANOL/AMMONIA PROGRAMS

- Liquid, ready to use
- Human serum based
- 4/6/12 month cycle
- 2 ml samples

### Analyte

Ammonia	Ethanol
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## HbA1c PROGRAMS

- Human whole blood based
- Lyophilized
- 4/6/12 month cycle
- 0.5 ml samples

### Analytes

HbA1c

## HEMATOLOGY PROGRAMS

- Liquid, ready to use
- 4/6/12 month cycle
- 4 separate shipments/year
- 2 ml samples

### Analytes

WBC	MCH	RDW
RBC	MCHC	Platelet (Plt)
Hb	MCV	MPV
Htc		

## HIV/HEPATITIS/SYPHILIS PROGRAMS

- Human plasma based
- Liquid
- Both Qualitative and Quantitative evaluation
- 2 Samples tested quarterly
- 1 ml samples



### Analytes

Anti HAV	Anti HBs	HBsAg
Anti HBc	Anti HCV	Syphilis Antibodies
Anti HBe	Anti HIV	VDRL



## IMMUNOASSAY PROGRAMS

- Human serum based
- Lyophilized
- 4/6/12 month cycle
- Submit results for the appropriate sample every month
- 5 ml samples

### Analytes

<u>25-OH Vitamin D</u>	<u>Estradiol (E2)</u>	<u>Insulin</u>	<u>TSH</u>
<u>Anti TG</u>	<u>Ferritin</u>	<u>LH</u>	<u>Thyroxine, Free (FT4)</u>
<u>Anti TPO</u>	<u>Folate</u>	<u>Progesterone</u>	<u>Thyroxine, Total (T4)</u>
<u>C-Peptide</u>	<u>FSH</u>	<u>Prolactin</u>	<u>Triiodothyronine, Free (FT3)</u>
<u>Cortisol</u>	<u>hCG</u>	<u>PTH, intact</u>	<u>Triiodothyronine, Total (T3)</u>
<u>DHEA-SO4</u>	<u>Ig E</u>	<u>Testosterone</u>	<u>Vitamin B12</u>

## THERAPEUTIC DRUGS PROGRAMS

- Free of charge for KBUDEK IMMUNOASSAY PROGRAM participants
- Human serum based
- Lyophilized
- 4/6/12 month cycle
- 5 ml samples

### Analytes

<u>Carbamazepine</u>	<u>Phenobarbital</u>	<u>Theophylline</u>
<u>Digoxin</u>	<u>Phenytoin</u>	<u>Valproic acid</u>
<u>Lithium</u>	<u>Salicylic acid</u>	<u>Vancomycin</u>

## IMMUNOASSAY SPECIALITY PROGRAMS

- Human serum based
- Lyophilized
- 4/6/12 month cycle
- Submit results for the appropriate sample every month
- 5 ml samples

### Analytes

<u>1,25 OH Vitamin D</u>	<u>Androstenedion</u>	<u>IGF-1</u>
<u>17-OH Progesteron</u>	<u>Beta-2 Mikroglobulin</u>	<u>SHBG</u>
<u>ACTH</u>	<u>Estriol</u>	<u>Testosteron, Free</u>
<u>Aldosterone</u>	<u>GH</u>	<u>Thyroglobulin</u>
<u>AMH</u>		





## SERUM PROTEINS PROGRAMS

- Liquid, ready to use
- Human serum based
- 6 month cycle/year
- 1 ml samples

### Analytes

<u>Antistreptolysin O (ASO)</u>	<u>C-Reactive Protein (CRP)</u>	<u>Immunoglobulin G (IgG)</u>
<u>Complement C3</u>	<u>Immunoglobulin A (IgA)</u>	<u>Immunoglobulin M (IgM)</u>
<u>Complement C4</u>	<u>Immunoglobulin E (IgE)</u>	<u>Rheumatoid Factor (RF)</u>

## SERUM PROTEINS- SPECIALITY PROGRAMS

- Liquid, ready to use
- Human serum based
- 4 month cycle/year
- 1 ml samples

### Analytes

<u><math>\alpha</math>-1 Acid Glycoprotein</u>	<u>Haptoglobin</u>	<u>Lambda Light Chain, Total</u>
<u><math>\alpha</math>-1 Antitrypsin</u>	<u>Prealbumin</u>	<u>Lambda Light Chain, Free</u>
<u><math>\alpha</math>-2 Macroglobulin</u>	<u>Retinol Binding Protein (RBP)</u>	<u>Kappa Light Chain, Total</u>
<u><math>\alpha</math>-2 Microglobulin</u>	<u>Transferrin</u>	<u>Kappa Light Chain, Total</u>
<u>Ceruloplasmin</u>		

## TORCH PROGRAMS

- Human plasma based
- Liquid
- Both Qualitative and Quantitative evaluation
- 2 Samples tested quarterly
- 1 ml samples

### Analytes

<u>Anti Cytomegalovirus (CMV) IgG</u>	<u>Anti Rubella IgM</u>
<u>Anti Cytomegalovirus (CMV) IgM</u>	<u>Anti Toxoplasma IgG</u>
<u>Anti Rubella IgG</u>	<u>Anti Toxoplasma IgM</u>



## TUMOR MARKERS PROGRAMS

- Human serum based
- Lyophilized
- 4/6/12 month cycle
- Submit results for the appropriate sample every month
- 5 ml samples

### Analytes

<u>AFP</u>	<u>CA 19-9</u>	<u>PSA, Total</u>
<u>CEA</u>	<u>CA 125</u>	<u>PSA, Free</u>
<u>CA 15-3</u>		

## URINALYSIS PROGRAMS

- Liquid, ready to use
- Ideal for both manual and automated dipstick analysis
- 6 month cycle/year
- 12 ml samples

### Analytes

<u>Bilirubin</u>	<u>hCG (Pregnancy)</u>	<u>pH</u>
<u>Blood/Hemoglobin</u>	<u>Ketones</u>	<u>Protein</u>
<u>Creatinine</u>	<u>Leucocytes</u>	<u>Specific Gravity</u>
<u>Glucose</u>	<u>Nitrite</u>	<u>Urobilinogen</u>



## PRENATAL SCREENING PROGRAMS

- Human serum based
- Lyophilised
- 12 month cycle
- 1 ml samples
- First and Second Trimester screening and Interlaboratory comparison of risk and MoM values of Down Syndrome Softwares

### Analytes

<u>AFP</u>	<u>PAPP-A</u>
<u>Free beta hCG</u>	<u>Total hCG</u>
<u>Inhibin A</u>	<u>Serbest Estriol</u>

## TOXICOLOGY PROGRAMS

- Urine
- Lyophilised
- 12 month cycle
- 2 samples tested every 4 months
- 1 ml samples

### Analytes

<u>Amphetamine/Methamphetamine</u>	<u>Cannabinoids</u>	<u>Cocaine metabolite</u>
<u>Benzodiazepine</u>	<u>MDMA</u>	<u>Opiates</u>
<u>Buprenorphine</u>	<u>Heroin (6-MAM)</u>	



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