



German External Quality Assessment Scheme

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Erlangen, 21.12.2011

Intercomparison programme 49 - within the framework of statistical quality assurance

Dear Colleague,

As you know, we have been carrying out a statistical quality control programme and certification for occupational medical and environmental medical toxicological analysis in biological materials since 1982. Within the framework of statistical quality control,

G-EQUAS 49 is going to take place from **February – July 2012.**

The round robin comprises the determination of a series of important occupational-medical and environmental-medical parameters in blood, plasma/serum, urine and hemoglobin samples.

By including the environmental-medical parameter and concentration range, we are fulfilling the wishes of the commission "Human Biological Monitoring" of the German Federal Environmental Agency (Umweltbundesamt) to also carry out quality control programmes for biological monitoring investigations in the environmental field. This also accords with the wishes of numerous laboratories for an external quality control programme in the environmental exposure range.

You will find all the relevant information, order forms, deadlines under www.G-EQUAS.de. We would advise you to contact our website during the scheme in order to stay up to date!

Please note: you can order via internet:

www.G-EQUAS.de

If you wish to participate in **G-EQUAS 49, 2012** please send the enclosed application form (or better: order via internet) by

24th February 2012 at the latest

to: Professor Dr. med. H. Drexler
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91054 Erlangen
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email: G-EQUAS@ipasum.med.uni-erlangen.de

The required control materials will be sent from here on

16th March 2012.

Deadline for reporting your results is

21st May 2012.

The date of the postmark or fax (Fax-no. ++49-9131/8522317) is essential. We are going to accept the results until 21st May 2012, 12 p.m. Results that arrive after this date will not be considered in the evaluation, as this would cause a very long waiting period for the certificates to be distributed.

The **blood, plasma/serum, urine** and **hemoglobin** samples are native pooled materials which are spiked with defined amounts of the occupational and environmental-medical toxicological parameters after appropriate preparation. For the urine control, plasma control-metals and hemoglobin control, human materials were used. Whole blood and serum controls are based on animal origin. This procedure has proven its merit in previous round robins, as well as in international quality control programmes.

All samples should be handled with the same precautionary measures as when analysing samples from patients.

In G-EQUAS 49/2012 **thirteen control materials** in **two different concentration** settings are being offered.

The following preparations are available:

Control blood - metals

For

- the occupational-medical range: 7 metals (control material 1 A/B)
- the environmental-medical range: 3 metals (control material 7 A/B)

have been added to the control blood.

Control blood - aromatic and halogenated hydrocarbons

Based on experience gained in recent years, two control materials are available in this round robin which contain

- 4 highly volatile aromatic hydrocarbons (control material 4 A/B) or
- 6 halogenated hydrocarbons (control material 5 A/B)

Control urine – alcohols and ketones

In this control material

- 5 volatile alcohols and ketones (control material 12 A/B)

can be analysed.

These samples are particularly suitable for gas chromatographic headspace analysis. The control blood or urine is contained in air-tight headspace vials which are offered in two volumes due to the different samplers used in headspace analysis (e.g. Dani, Carlo Erba, Perkin Elmer).

Control serum - organochlorine compounds

This control material contains toxicologically important organochlorine compounds:

- 15 parameters for the environmental-medical range (control material 10 A/B) are offered.

Control plasma - metals

These control samples take into consideration elements of clinical-chemical and toxicological relevance and those relevant to therapy control. The range of parameters includes

- 9 elements (control material 11 A/B).

Control urine

This control material is pooled human urine in which

for the *occupational-medical* range

- 24 inorganic (incl. ALA) (control material 2 A/B)
- 18 organic parameters (control material 3 A/B) and

for the *environmental-medical* range

- 6 inorganic parameters (control material 8 A/B) and
- 18 organic parameters (control material 9 A/B)

can be analysed. Additionally the creatinine concentration should be analysed from control material 2 A/B and 3 A/B. **This determination is free of charge.**

PHENOLIC Components in urine are offered as a separate control material (**No. 14/15 A and B**). These parameters have already been offered in the past, but have been related to different control materials. We spiked pooled human urine with phenolic components and metabolites and partially with glucuronide conjugates of these phenolic substances.

For analysis we offer

2 parameters of the *occupational-medical* range (control material 14 A/B)

5 parameters of the *environmental-medical* range (control material 15 A/B)

in brown-coloured glass vials.

N-terminal adducts in hemoglobin (control material 13 A/B)

For the analysis of N-terminal adducts in haemoglobin we offer four globin adducts:

Methylvaline (MeV), 2-Hydroxyethylvaline (HEV), 2-Cyanoethylvaline (CEV) and 2-Carbamoylethylvaline (AAV).

To analyse one or the group of N-terminal adducts, 300 mg human globin is available for each concentration level.

On request each participant receives samples in **two concentration settings** for each parameter to be analysed. Successful participation in the round robin is certified if both concentrations are correctly determined.

A certificate is awarded for successful participation in this intercomparison programme for occupational-medical- and environmental-medical- toxicological analyses.

We would like to ask all participants to update their contact data.

Please note that you can only participate in G-EQUAS when you have given us the current contact data of your laboratory!

Name of the person in charge:

Postal address:

E-mail:

Telephone number:

We wish you all the best for your tests.

Yours sincerely,

Prof. Dr. med. H. Drexler

General information:

The basic payment of 100.00- € covers the costs of the participation in the round robin test, the evaluation and certification.

Additionally 25.00- € are charged for each analysis parameter in blood, plasma/serum or urine.

For each of the following parameter pools* an amount of 50.00- € is charged.

parameter: 11	Arsenic speciation (As ⁺³ , As ⁺⁵ , MMA*, DMA*)
parameter: 117	5-HNMP and 2-HMSI
parameter: 80	Pyrethroide metabolites (Br ₂ -CA, cis-Cl ₂ -CA, trans-Cl ₂ -CA, 3-PBA)
parameter: 87	Alkyl phosphates (DMP, DMTP, DMDTP, DEP, DETP, DEDTP)
parameter: 93	Cotinine, Nicotine
parameter: 122	Phthalate metabolites DEHP (5-carboxy-MEPP, 5-oxo-MEHP, 5-carboxy-MEPP)
parameter: 129	Phthalate metabolites "other" (MnBP, MiBP, MBzP)
parameter: 127	1-Naphthol, 2-Naphthol
parameter: 47	Benzene, Toluene, Xylenes, Ethylbenzene
parameter: 51	Dichloromethane, 1,2-Dichloroethane, Trichloroethene, Tetrachloroethene, 1,1,1-Trichloroethane, Tetrachloromethane
parameter: 54	Methanol, Acetone, Methyl ethyl ketone, Methyl isobutyl ketone, Tetrahydrofuran
parameter: 130	Globin adducts (MeV, HEV, CEV, AAV)
parameter: 95	p,p'-DDT and p,p'-DDE
parameter: 97	α-, β-, γ-HCH
parameter: 100	PCB 28, 52, 101, 138, 153, 180
parameter: 120	PFOA, PFOS

*: Parameter pools comprise the combined order of the parameter, the material supply, one price, but the entitlement to a certificate for each of the parameter in the pool.

IMPORTANT information for our OVERSEAS participants:

To guarantee short shipping periods and to minimize trouble concerning the shipment from now on, the control samples to the **overseas participants** will be shipped by a private carrier. To cover the costs for this service an **additional amount of 50.00 €** is necessary, regardless of the amount of the order.

We would like to ask all participants to update their contact data.

Please note that you can only participate in G-EQUAS when you have given us the current contact data of your laboratory!

Name of the person in charge:

Postal address:

E-mail:

Telephone number: