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PRODUCTINFORMATION

PREFACE

The ACQ Science GmbH was founded in summer 2010 and develops, produces and distributes reference materials, so-called in-vitro diagnostics. Our products are used by laboratories in Germany and Europe for analyses in toxicology and clinical chemistry.

Security, transparency and a maximum of quality characterize our special working methods, which are focussing on the individual needs of our customers. We offer quality controls for each request - we acquire modifications and special developments in a flexible way and in close cooperation with you. For your special request please fill in the form on page 36 and submit it to us by fax.

The products of ACQ Science are used where reliability and quality are deciding: in the forensic toxicological field and for clinical applications. Therefore, our stated aim is to create reliable solutions in cooperation with our customers. This requires mutual trust and a high degree of transparency and enables a long-term partnership. As an ISO certified company, we are always aiming at improving and advancing our products in order to offer you top quality on the market.

Last but not least we would like to thank all our customers for trusting in us and for their support.

Natacha Valois
Managing director

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ALCOHOL – ETHANOL

Ethanol: EtOH AQ, EtOH SE and EtOH WH

Application	This material should be used in accordance with the laboratory's operating procedures for instrument calibration or as a control material. The control material is prepared by spiking the matrices with ethanol.
Matrix	Aqueous solution, serum and whole blood
Analyte	Ethanol
Assigned value	The assigned ethanol concentration was determinated by 3 independent laboratories each accredited to DIN EN ISO/IEC 17025. Repeat determinations were carried out daily, on separate days using two indepedent analytical methodes (Gas Chromatography and Enzymatic determination (ADH)). **Ethanol in serum:** EtOH - SE values can also be determined by proficiency tests organized for the GTFCh by ARVECON GmbH the target values are the consensus values obtained from this trial. They were released by the coordinator of proficency testing of the GTFCh. **Notice:** for Ethanol in whole blood measurements with Gas Chromatography only.
Packing Unit	10 x 1,5 ml / 10 x 3,0 ml (liquid)
REF	Order number

ALCOHOL – ETHANOL

Ethanol: EtOH AQ, EtOH SE and EtOH WH

EtOH AQ - Ethanol aqueous

Target Conc.* [g/L]		0,1	0,2	0,3	0,5	0,8	1,0	1,1	1,3	1,5	2,0	3,0	4,0	5,0
REF	10 x 1,5 ml	AQ01-015	AQ02-015	AQ03-015	AQ05-015	AQ08-015	AQ10-015	AQ11-015	AQ13-015	AQ15-015	AQ20-015	AQ30-015	AQ40-015	AQ50-015
REF	10 x 3,0 ml	AQ01-030	AQ02-030	AQ03-030	AQ05-030	AQ08-030	AQ10-030	AQ11-030	AQ13-030	AQ15-030	AQ20-030	AQ30-030	AQ40-030	AQ50-030

EtOH SE - Ethanol in serum

Target Conc.* [g/L]		0,1	0,2	0,3	0,5	0,8	1,0	1,1	1,3	1,5	2,0	3,0	4,0	5,0
REF	10 x 1,5 ml	SE01-015	SE02-015	SE03-015	SE05-015	SE08-015	SE10-015	SE11-015	SE13-015	SE15-015	SE20-015	SE30-015	SE40-015	SE50-015
REF	10 x 3,0 ml	SE01-030	SE02-030	SE03-030	SE05-030	SE08-030	SE10-030	SE11-030	SE13-030	SE15-030	SE20-030	SE30-030	SE40-030	SE50-030

EtOH WH – Ethanol in whole blood

Target Conc.* [g/L]		0,1	0,3	0,5	0,8	1,1	2,0	3,0
REF	10 x 1,5 ml	WH01-015	WH03-015	WH05-015	WH08-015	WH11-015	WH20-015	WH30-015
REF	10 x 3,0 ml	WH01-030	WH03-030	WH05-030	WH08-030	WH11-030	WH20-030	WH30-030

* the target values are depending on the batch and should be taken from the package leaflets – www.acq-science.de

ALCOHOL CONSUMPTION MARKERS

ALCOHOL CONSUMPTION MARKERS in serum and urine: ETG SE and ETG UR

Application	This product is intended for use as a control material, as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with ethyl glucuronide and ethyl sulfate.
Matrice	Human serum and urine
Analytes	Ethyl glucuronide and ethyl sulfate
Assigned value	This material was originally prepared for the proficiency test ETG - Ethyl glucuronide in serum and urine, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	10 x 2,5 ml (lyophilized)
REF	Order number

ALCOHOL CONSUMPTION MARKERS

ALCOHOL CONSUMPTION MARKERS in hair: EGH HA

Application	This product is intended for use as a control material, as part of laboratory's internal quality assurance processes. The control material is prepared by of ground authentic human hair.
Matrice	Human hair
Analyte	Ethyl glucuronide
Assigned value	The target values were determined within the proficiency test EGH 2/12 - Ethyl glucuronide in hair of the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. Requirements for sample preperation and analysis methods were not prescribed. Analysis were performed by the participants mostly with LC/MS(/MS). The target values were released by the coordinator of the proficiency testing of the GTFCh.
Packing Unit	1 x 100 mg 5 x 100 mg
REF	Order number

ALCOHOL CONSUMPTION MARKERS

ALCOHOL CONSUMPTION MARKERS in serum and urine: ETG SE and ETG UR

Product name	ETG 3/10 – A SE	ETG 3/10 – B UR	ETG 2/12 – A SE	ETG 2/12 – B UR
Matrix	serum	urine	serum	urine
Analytes	Target value [mg/L]	Target value [mg/L]	Target value [mg/L]	Target value [mg/L]
Ethyl glucuronide	0,64	1,27	1,77	0,56
Ethyl sulfate	0,91	0,81	1,50	1,07
REF 10 x 2,5 ml	SE015.010.001	UR015.010.001	20SE212A	20UR212B

ALCOHOL CONSUMPTION MARKERS

ALCOHOL CONSUMPTION MARKERS in hair: EGH HA

Product name	EGH 2/12 – A HA	EGH 2/12 – B HA
Matrix	hair	hair
Analytes	Target value [mg/L]	Target value [mg/L]
Ethyl glucuronide	25,40	41,10
REF 1 x 100 mg	20HA212A	20HA212B
REF 5 x 100 mg	20HA212A5	20HA212B5

Drugs of abuse in serum: BTMF SE

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with drugs of abuse.
Matrix	Human serum
Analyte	Amphetamine, Methamphetamine, MDMA, MDA, MDE(A), MBDB Cocaine, Benzoylecgonine, Ecgoninemethyl ester Codeine, Morphine, Dihydrocodeine THC, 11-OH-THC, THC-COOH
Assigned value	These materials were originally prepared for the proficiency test BTMF - Drugs of abuse in serum, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	10 x 2,5 ml (lyophilized)
REF	Order number

Drugs of abuse in serum: BTMF SE

Product name	BTMF 1/11-B SE	BTMF 3/11-A SE	BTMF 3/11-B SE	BTMF 2/12-B SE
Matrix	serum	serum	serum	serum
Analytes	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]
Amphetamine	140,3	85,5	23,7	137,0
Methamphetamine	140,9	79,4	23,7	140,0
MDMA 3,4-Methylenedioxymethamphetamine	147,4	75,4	24,0	140,0
MDA 3,4-Methylenedioxyamphetamine	97,3	65,5	25,8	93,7
MD(E)A 3,4-Methylenedioxyethylamphetamine	146,0	83,1	24,0	142,0
MBDB N-methyl-1-3,4-methylene-dioxyphenyl-2-butamin	93,4	53,7	23,0	94,4
Cocaine	100,4	51,8	16,1	92,0
Benzoylecgonine	412,7	224,0	45,1	462,0
Ecgonine methyl ester	98,9	37,2	9,88	65,6
Morphine	99,3	46,9	9,73	98,0
Codeine	95,8	51,4	10,4	93,0
Dihydrocodeine	185,3	111,5	48,2	178,0
THC Δ^9-Tetrahydrocannabinol	19,9	9,47	0,97	19,3
11-OH-THC 11-OH-Δ^9-Tetrahydrocannabinol	9,8	4,97	0,99	9,83
THC-COOH 11-nor-Δ^9-THC carbonic acid	135,9	71,0	9,63	144,0
REF **10 x 2,5 ml**	SE015.015.003	12SE311A	12SE311B	12SE212B

DRUGS

Drugs of abuse in whole blood: BTMF WH and STUP WH

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with drugs of abuse.
Matrix	Human whole blood
Analyte	Amphetamine, Methamphetamine, MDMA, MDA, MDE(A), MBDB Mephedrone Cocaine, Benzoylecgonine, Ecgoninemethyl ester Codeine, Morphine, Dihydrocodeine, 6-MAM, Pholcodine THC, 11-OH-THC, THC-COOH
Assigned value	BTMF: These materials were originally prepared for the proficiency test BTMF - Drugs of abuse in whole blood, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh. STUP: These materials were originally prepared for the proficiency test STUP ST 07/11 - Drugs of abuse in whole blood, organized for the SFTA (Society of Toxicological and Forensic Chemistry in France). The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the SFTA.
Packing Unit	10 x 2,5 ml (lyophilized)
REF	Order number

Drugs of abuse in whole blood: BTMF WH and STUP WH

Product name	BTMF 2/12 – C WH	STUP 07/11 – A WH	STUP 07/11 – B WH
Matrix	whole blood	whole blood	whole blood
Analytes	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]
Amphetamine	88,1	22,99	76,9
Methamphetamine	101,0	23,03	73,61
MDMA 3,4-Methylenedioxymethamphetamine	54,0	23,25	74,61
MDA 3,4-Methylenedioxyamphetamine	64,2	21,91	75,61
MD(E)A 3,4-Methylenedioxyethylamphetamine	47,4	23,63	76,43
MBDB N-methyl-1-3,4-methylene-dioxyphenyl-2-butamin	59,6	-	-
Mephedrone	-	20,76	67,66
Cocaine	52,4	14,5	78,87
Benzoylecgonine	137,0	40,39	119,90
Ecgonine methyl ester	37,4	11,61	74,34
Morphine	31,7	10,25	57,59
Codeine	135,0	9,51	76,86
Dihydrocodeine	160,0	24,30	93,90
6-MAM 6 Monoacetylmorphine	-	4,99	49,19
Pholcodine	-	24,51	73,68
THC Δ^9-Tetrahydrocannabinol	2,92	0,97	16,89
11-OH-THC 11-OH-Δ^9-Tetrahydrocannabinol	2,25	1,03	9,39
THC-COOH 11-nor-Δ^9-THC carbonic acid	43,1	6,53	64,88
REF **10 x 2,5 ml**	12WH212C	12WH0711A	12WH0711B

Drugs in hair: DHF

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared of ground human hair spiked with drugs.
Matrix	Powdered human hair
Analyte	Amphetamine, Methamphetamine, MDMA, MDA, MDE(A) Cocaine, Benzoylecgonine Morphine, MAM Methadone, EDDP THC, CBN, CBD, THC-COOH Tramadol
Assigned value	These materials were originally prepared for the proficiency test DHF – Drugs in hair, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS(/MS) and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	1 x 250 mg (ground)
REF	Order number

Drugs in hair: DHF

Product name	DHF 2/12 - A
Matrix	Hair
Analytes	Target value [ng/mg]
Amphetamine	1,17
Methamphetamine	0,797
MDMA 3,4-Methylenedioxymethamphetamine	1,74
MDA 3,4-Methylenedioxyamphetamine	0,428
MD(E)A 3,4-Methylenedioxyethylamphetamine	0,589
Cocaine	2,99
Benzoylecgonine	2,84
Morphine	0,826
6-MAM 6-Monoacetylmorphine	1,16
THC Δ^9-Tetrahydrocannabinol	0,274
THC-COOH	0,032
CBN Cannabinol	0,834
CBD Cannabidiol	0,594
Methadone	1,80
EDDP 2-ethylidene-1,5-dimethyl-3,3-diphenyl-pyrrolidine	0,492

REF	1 x 250 mg	21HA212A

DRUGS AND ALCOHOL CONSUMPTION MARKERS

Forensic drug testing - Drugs and alcohol consumption markers in urine: FDT UR

Application

These products are intended for use as a control material as part of laboratory's internal quality assurance processes. Accuracy control for the internal quality assurance in the laboratory for forensic analytics and for the execution of alcohol and drug screenings within the framework of the MPU (German medical psycological assessment), by using the new generally valid evaluation criteria regarding the German driving aptitude test. The target values lie ± 25% above/below the defined cut-off-values of the Federal Highway Research Institute (BASt). The control material consists of urine on a human basis to which narcotics, drugs, and alcohol consumption markers have been added.

Matrix

Human urine

Analyte

Amphetamine, Methamphetamine, MDMA, MDA, MDE(A)
Benzoylecgonine
Morphine, Codeine, Dihydrocodeine, 6-MAM
7-Aminoflunitrazepam, Alprazolam, Diazepam,Flunitrazepam,Bromazepam, Nordiazepam
Oxazepam, Zolpidem, Lorazepam
THC-COOH
Buprenorphine, Norbuprenorphine, Methadone, EDDP
GHB
Ethyl glucuronide, Ethyl sulfate

Assigned value

The tests have been carried out by laboratories accredited according to DIN EN ISO/IEC 17025 for forensic toxicology by means of GC/MS and LC/MS(/MS). The target values have been determined according to the guidelines of the GTFCh (Society of Toxicological and Forensic Chemistry in Germany).
The target values are controlled according to RiliBäk (guidelines of the German Medical Association) in a checking cycle consisting of 15 values. The first completed checking cycles carried out by the reference laboratories are made available on www.acq-science.de

Packing Unit

5 x 5,0 ml (lyophilized)

REF

Order number

DRUGS AND ALCOHOL CONSUMPTION MARKERS

Forensic drug testing - Drugs and alcohol consumption markers in urine: FDT UR

Product name	FDT - 25% Cut Off	FDT +25% Cut Off
Matrix	urine	urine
Analytes	Target concentration [µg/L]*	Target concentration [µg/L]*
Amphetamine	37,5	62,5
d-Methamphetamine	37,5	62,5
MDMA 3,4-Methylenedioxymethamphetamine	37,5	62,5
MDA 3,4-Methylenedioxyamphetamine	37,5	62,5
MD(E)A 3,4-Methylenedioxyethylamphetamine	37,5	62,5
Benzoylecgonine	22,5	37,5
Morphine	18,75	31,25
Codeine	7,5	12,5
Dihydrocodeine	7,5	12,5
6-MAM 6-Monoacetylmorphine	3,75	6,25
7-Aminoflunitrazepam	37,5	62,5
Alprazolam	37,5	62,5
Diazepam	37,5	62,5
Flunitrazepam	37,5	62,5
Bromazepam	37,5	62,5
Nordiazepam	37,5	62,5
Oxazepam	37,5	62,5
Zolpidem	37,5	62,5
Lorazepam	37,5	62,5
THC-COOH 11-nor-Δ^9-THC carbonic acid	7,5	12,5
Buprenorphine	1,75	2,25
Norbuprenorphine	1,75	2,25
Methadone	37,5	62,5
EDDP 2-ethylidene-1,5-dimethyl-3,3-diphenyl-pyrrolidine	37,5	62,5
GHB gamma-Hydroxybutyric acid	7500	12500
Ethyl glucuronide	75	125
Ethyl sulfate	75	125
REF 5 x 5,0 ml	UR015.050.003	UR015.050.004

* the values are depending on the batch and should be taken from the package leaflets - www.acq-science.de

DRUGS AND ALCOHOL CONSUMPTION MARKERS

Drug confirmation tests in urine: DCT UR

Application

Accuracy control for the internal quality assurance in the laboratory for forensic analytics and for the execution of alcohol and drug screenings. The target values lie +/ - 25 % above / below the defined cout-off-values of the **EWDTS** (European Workplace Drug Testing Society). The control material consists of urine on a human basis to which narcotics, drugs and alcohol consumption markers have been added.

Matrix

Human urine

Analyte

see table on page 19

Assigned value

The measurements have been carried out by laboratories accredited according to DIN EN ISO/IEC 17025 for forensic toxicology by means of GC/MS and LC/MS(/MS). The target values have been determined according to the guidelines of the GTFCh (Society of Toxicological and Forensic Chemistry in Germany).
The target values are controlled according to RiliBäk (guidelines of the German Medical Association) in a checking cycle consisting of 15 values. The first completed checking cycles carried out by the reference laboratories are made available on www.acq-science.de

Packing Unit

10 x 2,0 ml (lyophilized)

REF

Order number

DRUGS AND ALCOHOL CONSUMPTION MARKERS

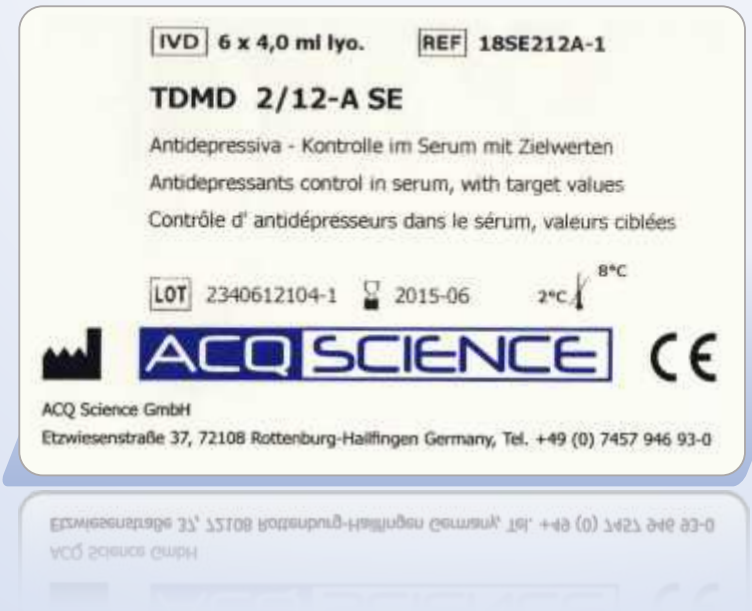
Drug confirmation tests in urine: DCT UR

Product name Matrix Analytes	Cut-0ff (EWDTS) [µg/L]	DCT - 25% Cut Off urine Target concentration [µg/L]*	DCT +25% Cut Off urine Target concentration [µg/L]*
Amphetamine			
Amphetamine	200	150	250
Methamphetamine	200	150	250
MDA 3,4-Methylenedioxyamphetamine	200	150	250
MD(E)A 3,4-Methylenedioxyethylamphetamine	200	150	250
MDMA 3,4-Methylenedioxymethamphetamine	200	150	250
Mephedrone	200	150	250
Methylone	200	150	250
Benzylpiperazine	200	150	250
Cocaine-metabolit			
Benzoylecgonine	150	112,5	187,5
Ecgonin methyl ester	150	112,5	187,5
Opiate			
Morphine	300	225	375
Morphine - 3 - glucuronide	300	225	375
Codeine	300	225	375
Norcodeine	50	37,5	62,5
Dihydrocodeine	300	225	375
6-MAM 6-Monoacetylmorphine	10	7,5	12,5
Tramadol	200	150	250
Nortilidine	200	150	250
Fentanyl	10	7,5	12,5
Oxymorphone	200	150	250
Benzodiazepine			
7-Aminoflunitrazepam	100	75	125
Bromazepam	100	75	125
Flurazepam	100	75	125
OH-ethyl-flurazepam	100	75	125
Oxazepam	100	75	125
Nordiazepam	100	75	125
OH-Alprazolam (alpha)	100	75	125
Midazolam	100	75	125
Lorazepam	100	75	125
Temazepam	100	75	125
Zolpidem	100	75	125
ACP-Zopiclone Metabolit	100	75	125
Barbiturate			
Phenobarbital	150	112,5	187,5
Cannabinoide			
THC-COOH 11-nor-Δ⁹-THC carbonic acid	15	11,25	18,75
LSD			
LSD	1	0,75	1,25
Replacement Drugs			
Methadone	250	187,5	312,5
EDDP 2-ethylidene-1,5-dimethyl-3,3-diphenyl-pyrrolidine	250	187,5	312,5
Buprenorphine	5	3,75	6,25
Norbuprenorphine	5	3,75	6,25
Others			
Ethyl glucuronide	500	375	625
Ethyl sulfate	500	375	625
GHB gamma-Hydroxybutyric acid	50000	37500	62500
Ketamine	50	37,5	62,5
REF 10 x 2,0 ml		22UR020A	22UR020B

* the values are depending on the batch and should be taken from the package leaflets - www.acq-science.de

Antidepressants in serum: TDMD SE

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with antidepressants.
Matrix	Human serum
Analyte	Duloxetine, Fluoxetine, Norfluoxetine,Fluvoxamine, Mianserin, Mirtazapine, Paroxetine, Reboxetine Sertraline Venlafaxine, Desmethylvenlafaxine
Assigned value	These materials were originally prepared for the proficiency test TDMD – Antidepressants in serum, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	6 x 4,0 ml (lyophilized)
REF	Order number



Antidepressants in serum: TDMD SE

Product name	TDMD 3/10 - A SE	TDMD 3/10 - B SE	TDMD 2/12 - A SE
Matrix	serum	serum	serum
Analytes	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]
Duloxetine	29,4	71,3	41,6
Fluoxetine	104,2	413,5	145,0
Norfluoxetine	104,2	413,5	133,0
Fluvoxamine	100,8	218,7	110,0
Mianserin	25,4	121,5	65,9
Mirtazapine	45,7	148,8	41,8
Paroxetine	20,7	62,1	41,1
Reboxetine	76,5	161,7	90,9
Sertraline	77,0	202,0	80,2
Venlafaxine	216,3	357,6	231,0
Desmethylvenlafaxine	217,0	389,2	197,7
REF 6 x 4,0 ml	SE015.040.020.001	SE015.040.020.002	18SE212A

Antiepileptics in serum: TDMB SE

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with anticonvulsants.
Matrix	Human serum
Analyte	Carbamazepine, Felbamate, Gabapentin, Lamotrigine, Levetiracetam, Oxcarbazepine, 10-OH-Carbazepine, Pregabalin, Tiagabine, Topiramate, Vigabatrin
Assigned value	These materials were originally prepared for the proficiency test TDMB – Anticonvulsants in serum, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	6 x 4,0 ml (lyophilized)
REF	Order number

Antiepileptics in serum: TDMB SE

Product name	TDMB 3/10 - A SE	TDMB 2/11-B SE
Matrix	serum	serum
Analytes	Target value [mg/L]	Target value [mg/L]
Carbamazepine	2,87	7,01
Felbamate	15,50	37,0
Gabapentin	3,90	7,80
Lamotrigine	-	9,33
Levetiracetam	4,71	14,5
Oxcarbazepine	1,56	4,14
10-OH-Carbazepine	5,04	14,5
Pregabalin	2,06	7,15
Tiagabine	47,40	178,4
Topiramate	2,47	5,63
Vigabatrin	4,84	9,90
REF 6 x 4,0 ml	SE015.040.009.001	16SE211B

Benzodiazepines in serum: BZF SE

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with benzodiazepines.
Matrix	Human serum
Analyte	**Sample A:** Alprazolam Bromazepam, Diazepam, Nordiazepam, Clonazepam, Temazepam, Zolpidem **Sample B:** Flunitrazepam, Norflunitrazepam, 7-Aminoflunitrazepam, Lorazepam, Midazolam, Zopiclone
Assigned value	These materials were originally prepared for the proficiency test BZF – Benzodiazepine in serum, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using HPLC and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	6 x 3,0 ml (lyophilized)
REF	Order number

Benzodiazepines in serum: BZ SE

Application	These products are intended for use as a precision as well as an accuracy control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with benzodiazepines.
Matrix	Human serum
Analyte	Alprazolam Bromazepam, Diazepam, Nordiazepam, Clonazepam, Temazepam, Zolpidem, Flunitrazepam, Norflunitrazepam, 7-Aminoflunitrazepam, Lorazepam, Midazolam, Zopiclone
Assigned value	The target values listed are the determined values obtained from accredited laboratories. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the laboratories using HPLC and LC/MS(/MS).
Packing Unit	10 x 2,5 ml (lyophilized)
REF	Order number

Benzodiazepines in serum: BZF SE

Product name	BZF1/11 - A SE	BZF 1/11 - B SE	BZF 3/12 - A SE	BZF 3/12 - B SE
Matrix	serum	serum	serum	serum
Analytes	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]
Alprazolam	36,0	x	34,1	x
Bromazepam	141,8	x	135,0	x
Diazepam	348,3	x	447,0	x
Nordiazepam	315,0	x	393,0	x
Clonazepam	87,1	x	53,3	x
Temazepam	118,6	x	146,0	x
Zolpidem	77,1	x	149,0	x
Flunitrazepam	x	14,2	x	11,9
Norflunitrazepam	x	18,4	x	16,0
7-Aminoflunitrazepam	x	25,6	x	19,2
Lorazepam	x	120,9	x	93,2
Midazolam	x	108,3	x	102,0
Oxazepam	x	241,2	x	294
Zopiclone	x	43,9	x	7,4
REF 6 x 3,0 ml	SE015.040.005.005	SE015.040.005.006	19SE312A	19SE312B

Benzodiazepines in serum: BZ SE

Product name	BZ - A SE	BZ - B SE
Matrix	serum	serum
Analytes	Target value [µg/L]	Target value [µg/L]
Alprazolam	10	50
Bromazepam	100	400
Diazepam	100	600
Nordiazepam	100	600
Clonazepam	20	100
Temazepam	100	400
Zolpidem	100	400
Flunitrazepam	10	50
Norflunitrazepam	10	50
7-Aminoflunitrazepam	10	50
Lorazepam	20	100
Midazolam	50	200
Oxazepam	100	600
Zopiclone	10	50
REF 10 x 2,5 ml	19SE025A	19SE025B

* the values are depending on the batch and should be taken from the package leaflets - www.acq-science.de

Neuroleptics1 in serum: TDMA SE

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with neuroleptics.
Matrix	Human serum
Analyte	**Sample A/B:** Clozapine, Desmethylclozapine, Olanzapine, Quetiapine, Amisulpride **Sample C/D:** Perazine, Risperidone, 9-OH-Risperidone, Ziprasidone, Citalopram (antidepressant)
Assigned value	These materials were originally prepared for the proficiency test TDMA – Neuroleptics1 in serum, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	6 x 3,0 ml (lyophilized)
REF	Order number

Neuroleptics1 in serum: TDMA SE

Product name	TDMA 2/11 - A SE	TDMA 2/11 - B SE	TDMA 3/10 - C SE	TDMA 3/10 - D SE
Matrix	serum	serum	serum	serum
Analytes	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]
Clozapine	232,2	453,9	x	x
Desmethylclozapine	163,9	418,5	x	x
Olanzapine	37,3	77,2	x	x
Quetiapine	87,9	173,3	x	x
Amisulpride	125,8	327,3	x	x
Perazine	x	x	51,5	323,5
Risperidone	x	x	4,83	10,25
9-OH-Risperidone	x	x	24,3	100,3
Ziprasidone	x	x	48,4	125,3
Citalopram (antidepressant)	x	x	49,9	253,2
REF 6 x 3,0 ml	15SE211A	15SE211B	SE015.040.015.003	SE015.040.015.004

Neuroleptics2 in serum: TDMC SE

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with neuroleptics.
Matrix	Human serum
Analyte	Aripiprazol, Flupentixol, Fluphenazine, Haloperidol, Sertindole, Sulpiride, Zotepine
Assigned value	These materials were originally prepared for the proficiency test TDMC – Neuroleptics2 in serum, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using GC/MS and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	6 x 4,0 ml (lyophilized)
REF	Order number

Neuroleptics2 in serum: TDMC SE

Product name	TDMC 3/10 - A SE	TDMC 3/10 - B SE
Matrix	serum	serum
Analytes	Target value [µg/L]	Target value [µg/L]
Aripiprazol	50,80	175,90
Flupentixol	2,22	8,30
Fluphenazine	1,70	6,13
Haloperidol	4,23	24,20
Sertindole	12,50	72,90
Sulpiride	133,40	525,10
Zotepine	40,00	125,00
REF 6 x 4,0 ml	SE015.040.015.005	SE015.040.015.006

Replacement drugs in serum and urine: STM SE and STM UR

Application	These products are intended for use as a control material as part of laboratory's internal quality assurance processes. The control material is prepared by spiking human matrices with replacements drugs and metabolites.
Matrix	Human serum and urine
Analyte	Buprenorphine, Norbuprenorphine, Methadone, EDDP
Assigned value	These materials were originally prepared for the proficiency test STM – Replacement drugs in serum and urine, organized for the GTFCh (Society of Toxicological and Forensic Chemistry in Germany) by ARVECON GmbH. The target values listed are the consensus values obtained from the respective trial. No restrictions were placed on sample preparation and analytical methodology. Quantitative analyses were performed by the participants using HPLC and LC/MS(/MS). The target values were released by the coordinator of proficiency testing of the GTFCh.
Packing Unit	6 x 2,5 ml (lyophilized)
REF	Order number

Replacement drugs in serum and urine: STM SE and STM UR

Product name	STM 2/12 - A SE	STM 3/10 - B UR	STM 1/11 - B UR
Matrix	serum	urine	urine
Analytes	Target value [µg/L]	Target value [µg/L]	Target value [µg/L]
Buprenorphine	3,5	12,6	14,0
Norbuprenorphine	11,4	26,5	35,2
Methadone	108,0	99,9	107,4
EDDP	49,3	127,0	162,1
REF 6 x 2,5 ml	14SE212A	UR015.040.001	UR015.040.002

BLANK

Blank control material in serum, whole blood and urine: Blankcheck SE, WH and UR

Application	Blankcheck consists of blank lyophilized human matrix and is intended for use as a negative control for laboratories. It is suitable for use as a matrix blank quality control material.
Matrix	Human serum, whole blood and urine
Analyte	Substances are listed on the opposite page
Matrix verification	The blank control material is analysed by laboratories accredited to DIN EN 17025 using GC-MS and LC-MS/MS to determine the presence or absence of the substances listed on the opposite page.
Packing Unit	10 x 2,5 ml (lyophilized) Blankcheck SE and Blankcheck WH 10 x 5,0 ml (lyophilized) Blankcheck UR
REF	Order number

BLANK

Blank control material in serum, whole blood and urine: Blankcheck SE, WH and UR

Product name	Blankcheck SE	Blankcheck WH	Blankcheck UR
Matrix	serum	whole blood	urine
Analytes	Matrix verification*	Matrix verification*	Matrix verification*
Amphetamine	x	x	x
d-Methamphetamine	x	x	x
MDMA 3,4-Methylenedioxymethamphetamine	x	x	x
MDA 3,4-Methylenedioxyamphetamine	x	x	x
MD(E)A 3,4-Methylenedioxyethylamphetamine	x	x	x
Cocaine	x	x	x
Benzoylecgonine	x	x	x
Ecgonine methyl ester	x	x	x
Morphine	x	x	x
Codeine	x	x	x
Dihydrocodeine	x	x	x
6-MAM 6-Monoacetylmorphine	x	x	x
7-Aminoflunitrazepam	x	x	x
Flunitrazepam	x	x	x
Clonazepam	x	x	x
Diazepam	x	x	x
Bromazepam	x	x	x
Nordiazepam	x	x	x
Oxazepam	x	x	x
Temazepam	x	x	x
Midazolam	x	x	x
Lorazepam	x	x	x
THC Δ^9-Tetrahydrocannabinol	x	x	-
11-OH-THC 11-OH-Δ^9-Tetrahydrocannabinol	x	x	-
THC-COOH 11-nor-Δ^9-THC carbonic acid	x	x	x
Buprenorphine	x	x	x
Norbuprenorphine	x	x	x
Methadone	x	x	x
EDDP 2-ethylidene-1,5-dimethyl-3,3-diphenyl-pyrrolidine	x	x	x
Creatinine	-	-	x
GHB	-	-	x

REF SE015.025.010.001 WH015.025.015.001 UR015.025.005.001

* the values are depending on the batch and should be taken from the package leaflets - www.acq-science.de

TAYLOR - MADE - SOLUTIONS

Security, transparency and a maximum of quality characterize our special working methods, which are focussing on the individual needs of our customers. We offer quality controls for each request - we acquire modifications and special developments in a flexible way and in close cooperation with you. For your special request please fill in the form on page 36 and submit it to us by fax.

OUR SERVICES

PRODUCTION

FILLING

LYOPHILIZATION

TAYLOR-MADE

For your special request please fill in the form and submit it to us by
fax: +49 (0) 7457 94 69 3 69 or by e-mail: info@acq-science.de
We will contact you as soon as possible.

Matrix	☐ serum	☐ whole blood	☐ urine	☐ hair

Analytes	Concentration (Profile 1)	unit	Concentration (Profile 2)	unit

Application	☐ accuracy	☐ precision	☐ calibrator	☐ proficiency tests

User methods

User amount / year in ml

Suggestions for improvement / product expansion by analytes / extension of a concentration range

Contact Person _____

Institute _____

Adress (Street name, house number) _____

Postal Code, town, country _____

Telephone number _____

e-Mail _____

Hersteller / Manufacturer / Produttore / Producteur

ACQ Science GmbH
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NOTICE

General terms and conditions for customers of ACQ SCIENCE GmbH

I. General / scope of application

1. Our terms and conditions apply solely with regard to companies, legal persons under public law, or special funds under public law, as defined in section 310 of the German Civil Code (BGB). Such persons shall be described below as Customers within the meaning of these terms and conditions.

2. Our terms and conditions apply exclusively; we do not recognise any conditions imposed by the Customer which contradict or differ from our terms and conditions unless we have expressly agreed to their validity in writing.

3. Our terms and conditions shall continue to apply if we provide services to the Customer without reservation while being aware of conditions imposed by the Customer which contradict or differ from our terms and conditions. These General Terms and Conditions shall also apply to future business done with the Customer.

II.Conclusion of the contract

1. Our offers are subject to alteration. Acceptance of a Customer's offer takes the form of a written confirmation or of the service being performed or the item supplied.

2. Our offers do not contain any guarantees or accept any supply risks unless explicitly otherwise indicated. The information about attributes or product sample attributes given in public statements by us, especially in catalogues, brochures, circulars, printed adverts, illustrations, advertising and price lists, shall only comprise the nature of the goods if these attributes have been explicitly agreed as such in a contract. Public statements made by third-party manufacturers or their assistants shall only comprise the nature of the goods if they have been explicitly agreed as such in the contract or if we have explicitly adopted such statements ourselves in writing in public statements.

3. Until delivery we reserve the right to make such technological, chemical or physical changes as are customary in the trade, including, but not limited to, improvements, if this causes only insignificant changes to the nature of the goods and does not have any unreasonable adverse effect for the Customer. With regard to the weight, volume and dimensions of our goods, the weight, volume and/or dimensions measured on dispatch shall apply.

4. We are entitled to issue subcontracts.

III. Prices

1. Unless otherwise agreed, our prices are ex works and include packaging; the current rate of value-added tax shall be charged additionally. Any supplementary services negotiated shall be charged separately.

2. Unless otherwise agreed, sums charged to the Customer are payable immediately. Payments are solely to be made to the account indicated on our invoice. A discount for early payment/payment in cash is only allowable if explicitly agreed upon.

3. The Customer can only offset its claims against ours if the Customer's counterclaim is undisputed or if an enforceable title has been obtained.

4. If a delivery period of more than six weeks has been agreed and in the case of a continuing obligation lasting longer than six weeks, we are entitled to pass on to the Customer any cost increases which occur during this period for procurement, delivery or staffing, by raising the prices affected by these increases to the extent required to compensate for such increases.

IV. Delivery and delayed delivery

1. Delivery dates and times shall be based on our order confirmation. If any changes to the content or extent of the delivery are negotiated after the contract is concluded, the delivery deadline for the total order shall be
recalculated with the date of such changes as the starting-point. The delivery date or time shall have been adhered to if the goods are dispatched on time or if the Customer has been informed that the goods are ready for dispatch.

2. If we are unable to deliver the goods or provide the service due to circumstances beyond our control including, but not limited to, steps taken during industrial action, strikes or lock-outs, acts of God, war, natural catastrophes or our own suppliers' failure to deliver goods or their inadequate delivery, then the deadline for delivery of the goods or performance of the service shall be extended appropriately. We are entitled to rescind the contract if the obstacle preventing us from delivering the goods or providing the service remains indefinitely and the purpose of the contract is in jeopardy. If such obstacle remains for longer than two (2) months, the Customer shall be entitled to withdraw from the contract as regards the part of it which has not been fulfilled, even if the Customer does not in any case have the right to withdraw from the contract as a whole in accordance with the provisions of these conditions.

3. We shall be entitled at any time to deliver goods and provide services in part, to the extent that partial delivery or provision does not go against the Customer's interests or is not unreasonable.

V. Passing of risk

The risk shall pass to the Customer when the goods are dispatched; this shall apply equally if we have undertaken further services, such as their transport, or if we have agreed to bear the transport costs. If shipping is delayed due to circumstances which are attributable to the Customer, the risk shall pass to the Customer when we are ready to dispatch.

VI. Reservation of title

1. Title to the goods supplied shall only pass to the Customer when all claims we make before and after the contract is concluded, in relation to our business relationship, have been paid in full. Processing, integration or transformation shall always take place on behalf of us, the manufacturer, but shall not subject us to any obligation. If the title is extinguished as a result of combination or processing we hereby agree in advance that the Customer's ownership of the uniform thing shall be transferred to us pro rata. The Customer shall retain co-ownership free of charge. In the following, goods which we are entitled to co-own shall be described as Reserved Goods.

2. The Customer shall be entitled to process or to sell the Reserved Goods in the regular course of its business as long as it has not fallen into arrears regarding its payment obligation. Pledges, or transfers as security, are not permitted. By way of security the Customer hereby transfers to us in full and in advance claims arising as a result of resale or for any other legal grounds; we accept this transfer. The Customer is authorised to collect claims arising as a result of resale or for any other legal grounds to the extent that it fulfils its duties towards us and that the conditions of Section 321 of the German Civil Code (BGB) do not arise. To the extent that the secured claims are due, the Customer shall be obliged to cede to us the sums collected without delay. It shall not be entitled to collect such sums if it has not been established prior to such collection that no obstacle prevents it from ceding the sums collected.

3. The Customer may not resell the goods if the claims arising from their resale or for any other legal grounds cannot be transferred or if circumstances prevent our claims arising from the sale from being satisfied.

4. At the request of the Customer, we shall release the ceded claim in the case that the realizable value of the ceded claims exceeds the secured entitlement by more than 20%. At our request the Customer shall be obliged to disclose the assignment of the claim and give us

the documents and information required to assert the claim. If third parties have access to the Reserved Goods or the claims which have been transferred in advance, the Customer shall be obliged to inform them of our ownership and to advise us without delay, providing us with all documents required for intervention. If the Customer acts contrary to the contract including, but not limited to, delayed payment, or violation of the duties incumbent upon the Customer pursuant to this Clause VI, for example its duties of care regarding the goods and the duty to cede payments collected, we are entitled to demand that any delivered goods which have not yet been paid for shall be returned, or that the Customer assign to us its entitlements to their return with regard to third parties. Asserting our reservation of title or seizing the delivered goods shall not constitute a withdrawal from the contract.

VII. Guarantee/notice of complaint

1. We shall remedy defects by rectifying the defect or by supplying an undefective item, at our discretion. To the extent that we seriously and definitively refuse cure or refuse to rectify the defect and to provide cure due to costs being disproportionate, or if cure is not successful or we cannot reasonably be expected to provide it, the Customer can demand a price reduction or withdraw from the contract at its discretion. This shall not affect the Customer's right to compensation for damages.

2. The Customer shall examine the goods we deliver immediately they are handed over and, if a material defect becomes apparent, notify us of such defect without delay. If the Customer fails to provide such notification, the goods shall be considered as having been approved unless the defect is such that it was not discernable during the examination. If such a defect becomes apparent later, notification must be provided immediately after it is discovered or the goods shall be deemed to have been approved, taking this defect into account. For the Customer to retain its rights, it is enough to have sent notification within due time. We cannot invoke this subsection if we have fraudulently failed to disclose the defect.

3. For claims to compensation due to defects and for claims arising from unlawful acts, the statutory terms of limitation shall apply.

All other claims made by the Customer regarding material defects, including, but not limited to, cure, rescission, price reduction and compensation for wasted expenses, shall become time-barred within one year.

VIII.Liability

The following provisions shall apply for breaches of duty apart from liability for defects and shall neither exclude nor restrict the Customer's statutory right to withdrawal. The following shall furthermore apply pro tanto:

1. The Customer shall only be entitled to claims to compensation or claims for compensation for wasted expenses as regards:

- injury to life, limb or health caused by an at least negligent breach of duty,

- other damages caused by an at least grossly negligent breach of duty or by at least negligently breaching duties essential to the contract (cardinal obligations),

- damages within the scope of a warranty (within the meaning of a guarantee, Section 276, subs. 1 of the German Civil Code, BGB) or of a guarantee of quality or durability (Section 443 of the BGB).

2. Our liability for simple negligence or grossly negligent acts by persons employed by us to fulfil our obligations who are not our legal representatives or executives (einfache Erfüllungsgehilfen), is limited to damages typically to be expected on concluding a contract and to the compensation of wasted expenses only regarding the non-performance of the contract.

3. Subsections 1 and 2 above apply to claims for compensation by the Customer arising from obligations accrued due to taking up contract negotiations, initiating a contract or similar business contacts. If a contract is subsequently concluded between us and the Customer, the Customer shall not be entitled to compensation unless their claims were founded under an existing contract according to the above provisions. Subsections 1 and 2 above shall not, however, apply to claims pursuant to Sections 1, 4 (manufacturer's duty to compensation) of the German Product Liability Act (ProdHaftG) or in case of inability to perform duties at the outset or impossibility of performance for a reason within our control.

4. To the extent that our liability is excluded or restricted by the above clauses, this shall also apply to the personal liability of our staff, our representatives and persons employed by us to fulfil our obligations.

IX. Data processing/confidentiality

1. We shall use personal information from the contract only for the purposes of winding up agreements, providing customer support, carrying out market research and for our own advertising campaigns. Personal information gathered in the context of the contractual relationship and
required for implementation shall be stored on our premises. Permission to do so is hereby deemed to have been granted.

2. We commit to treating in the strictest confidence all confidential information of which we are made aware directly or indirectly, and not passing it on to third parties, processing it or using it without the previous consent of the Customer. We shall take all appropriate measures to ensure confidentiality. Confidential information shall only be passed on to our staff or other third parties if this is required in the course of their work. This duty to maintain absolute confidentiality shall continue after our collaboration finishes.

X. Miscellaneous

The place of performance shall be the Company's head office. The sole place of jurisdiction shall be Tübingen, although we reserve the right to take proceedings against the Customer at the location of its head office or branch office. These Terms and Conditions and all legal dealings between us and the Customer shall be governed solely by the law of the Federal Republic of Germany. The application of UN sales law (CISG) is hereby explicitly excluded.

If any of the above provisions should be or become invalid in full or in part, this shall not affect the validity of the remaining provisions.

ACQ SCIENCE

YOUR PARTNER FOR QUALITY

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