

PKU-controls RIVM survey 2011/3

Specimen nr	B416	B417	B418	B419	B420 Method	Remarks
Nominal mmol/l blood	64	164	864	464	264	
Amsterdam	61	133	646	402	218 MS/MS PE underivatized	
Bilthoven	62	167	826	419	247 MS/MS PE underivatized	
Capelle	50	141	679	395	223 MS/MS PE underivatized	
Tilburg	64	157	799	384	263 MS/MS PE underivatized	
Zwolle	58	134	818	429	240 MS/MS PE underivatized	
Antwerpen	62	165	934	467	249 MS/MS PE underivatized	
Brugge	44	116	554	294	176 MS/MS Derivatized	
Brussel ULB	49	143	729	423	239 MS/MS Derivatized	
Brussel UCL	48	142	640	403	182 MS/MS Derivatized	
Gent	55	122	746	340	180 MS/MS Derivatized	
Liege	64	156	1000	472	248 MS/MS Derivatized	
Luxembourg	60	148	789	405	239 MS/MS PE underivatized	
Bio-Rad	69	182	1041	565	303 Quantase	
Perkin Elmer	--	--	--	--	-- Victor-Delfia	
CDC	--	--	--	--	--	
Izmir	56	150	727	449	245 Biochrom AA	
x	57	147	781	418	232	
cv %	12	12	17	15	14	

diverse controle's

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2011/3	609615 3861 /	609175	neobase
Bilthoven	2011/3	609615	608861	NeoBase non-derivatized
Capelle	2011/3	609615 61/AC609425		PerkinElmer Neobase non deriv.
Tilburg	2011/3	609615 38861/609425		NeoBase MSMS
Zwolle	2011/3	609615	608861	MS/MS PE underivatized
Antwerpen	2011/3	609615	608861	NeoBase
Brugge	2011/3	NVT	NVT	LC-MS/MS derivatized
Brussel ULB	2011/3	0	0	MSMS + derivatisation
Brussel UCL	2011/3	0	0	MSMS Derivatized - Non Kit
Gent	2011/3	in-house	in-house	LC-MSMS, derivatized, non-kit
Liege	2011/3	0	0	MSMS Chromsystem derivatized kit
Luxembourg	2011/3	609615	608861	NeoBase non derivatized MSMS kit
Bio-rad	2011/3	202	0	0
		0	0	0
		0	0	0
Izmir	2011/3	Biochrom		Sigma Biochrom AAA

observed/expected (%)	B416	B417	B418	B419	B420	mean	Remarks
Amsterdam	95	81	75	87	83	84	
Bilthoven	97	102	96	90	94	96	
Capelle	78	86	79	85	84	82	
Tilburg	100	96	92	83	100	94	
Zwolle	91	82	95	92	91	90	
Antwerpen	97	101	108	101	94	100	
Brugge	69	71	64	63	66	67	
Brussel ULB	77	87	84	91	91	86	
Brussel UCL	75	87	74	87	69	78	
Gent	86	74	86	73	68	78	
Liege	100	95	116	102	94	101	
Luxembourg	94	90	91	87	91	91	
Bio-Rad	108	111	120	122	115	115	
Perkin Elmer	--	--	--	--	--	--	
CDC	--	--	--	--	--	--	
Izmir	87	91	84	97	93	90	

T4-TBG-controls RIVM survey 2011/3

Specimen nr	B416	B417	B418	B419	B420	Method	Remarks
Nominal T4 nmol/l blood	45	54	0	120	81		
Amsterdam	37	50	10	98	62	AutoDelfia	
Bilthoven	40	49	<5	111	73	AutoDelfia	
Capelle	35	38	10	100	64	AutoDelfia	
Tilburg	48	50	5	103	75	AutoDelfia	
Zwolle	35	43	5	115	64	AutoDelfia	
Brussel ULB	41	44	<5	87	58	AutoDelfia	
CDC	--	--	--	--	--	PerkinElmer Delfia	
Bio-rad	--	--	--	--	--	Quantase	
Perkin Elmer	--	--	--	--	--	AutoDelfia	
Izmir	26	33	1	76	50	Neogenesis	
x	39	46	8	102	66		
sd	4	4	3	9	6		
vc %	11	10	33	9	9		

observed/expected (%)	B416	B417	B418	B419	B420	mean	Remarks
Amsterdam	82	93	--	82	77	83	
Bilthoven	89	91	--	93	90	91	
Capelle	78	70	--	83	79	78	
Tilburg	107	93	--	86	93	94	
Zwolle	78	80	--	96	79	83	
Brussel ULB	90	82	--	72	72	79	
CDC	--	--	--	--	--	--	
Bio-rad	--	--	--	--	--	--	
Perkin Elmer	--	--	--	--	--	--	
Izmir	57	60	--	63	62	61	

SD-value

	B416	B417	B418	B419	B420	Remarks
Amsterdam	-2.4	-1.7	-4.0	1.1	-1.0	
Bilthoven	-2.5	-2.1	-4.3	1.0	-0.9	
Capelle	-2.6	-2.4	-4.0	1.1	-0.9	
Tilburg	-2.1	-2.0	-4.3	0.7	-0.7	
Zwolle	-2.5	-2.0	-4.3	2.2	-0.8	

Classification based on T4

	B416	B417	B418	B419	B420	Remarks
Amsterdam	4	4	3	1	4	
Bilthoven	4	4	3	1	1	
Capelle	4	4	3	1	1	
Tilburg	4	4	3	1	1	
Zwolle	4	4	3	1	1	
Brussel ULB	1	1	3	1	1	

Key for classification:

- 1=negative
- 2=CHT possible
- 3=CHT probable
- 4=no conclusion (yet)
- 5=not relevant

diverse controle's

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2011/3	608960	608391	AD
Bilthoven	2011/3	608960	608391	AutoDelfia
Capelle	2011/3	610551	609674	Autodelfia
Tilburg	2011/3	611644	609674	Autodelfia
Zwolle	2011/3	609365	608391	AutoDelfia
Brussel ULB	2011/3	610381	24/03/3569	Autodelfia
0	0	0	0	0
Bio-rad	2011/3	0	0	0
0	0	0	0	0
Izmir	26-Sep-11	0	0	Neogenesis

expected classifications with measured concentrations

B416	B417	B418	B419	B420
4	4	3	1	1
4	4	3	1	1
4	4	3	1	1
4	4	3	1	1
4	4	3	1	1

	Action based on T4					Remarks
	B416	B417	B418	B419	B420	
Amsterdam	3	3	4	1	2	
Bilthoven	3	3	4	1	2	
Capelle	3	3	4	1	2	
Tilburg	3	3	4	1	1	
Zwolle	3	3	4	1	2	
Brussel ULB	1	1	6	1	1	

Key for action:
 1=none
 2=TSH-analysis
 3=TSH- + TBG-analysis
 4=TSH- + TBG-analysis + referral
 5=request for 2nd specimen
 6=referral to paediatrician

expected actions wrt measured concentrations					
B416	B417	B418	B419	B420	
3	3	4	1	2	
3	3	4	1	2	
3	3	4	1	2	
3	3	4	1	1	
3	3	4	1	2	

Tabel 11 (continued)

Specimen nr	B416	B417	B418	B419	B420	Method	Remarks
Nominal TBG nmol/l serum	270	34	135	68	540		
Amsterdam	256	38	129	69	>500	Eiken	
Bilthoven	303	32	157	84	519	Eiken	
Capelle	230	30	118	57	398	Eiken	
Tilburg	255	36	133	66	451	Eiken	
Zwolle	216	26	112	54	403	Eiken	

observed/expected (%)						mean	Remarks
Amsterdam	95	113	96	102	--	101	
Bilthoven	112	95	116	124	96	109	
Capelle	85	89	87	84	74	84	
Tilburg	94	107	99	98	84	96	
Zwolle	80	77	83	80	75	79	

T4/TBG ratio					
Amsterdam	10.5	89.5	--	--	--
Bilthoven	8.6	93.8	5.1	---	---
Capelle	10.9	90.0	9.3	--	--
Tilburg	11.8	86.0	6.0	--	--
Zwolle	12.0	>99	7.1	xx	xx

Classification based on T4/TBG ratio						Remarks
Amsterdam	2	--	--	--	--	
Bilthoven	2	1	5	--	--	
Capelle	2	1	5	--	--	
Tilburg	2	1	2	--	--	
Zwolle	2	1	5	5	5	

Action based on T4/TBG ratio						Remarks
Amsterdam	5	--	--	--	--	
Bilthoven	5	1	1	--	--	
Capelle	5	1	1	--	--	
Tilburg	5	1	1	--	--	
Zwolle	5	1	1	1	1	

expected classifications wrt measured concentrations					
B416	B417	B418	B419	B420	
2	1	5	5	5	
2	1	5	5	5	
2	1	5	5	5	
2	1	5	5	5	
2	1	5	5	5	

expected actions wrt measured concentrations					
B416	B417	B418	B419	B420	
5	1	1	1	1	
5	1	1	1	1	
5	1	1	1	1	
5	1	1	1	1	
5	1	1	1	1	

TSH-controls RIVM survey 2011/3

Specimen nr	B416	B417	B418	B419	B420	Method	Remarks
Nominal mIU/l blood	24	20	30	8	10		
Amsterdam	24	21	29	6	8	BRAHMS	
Bilthoven	28	24	34	8	10	AutoDelfia	
Capelle	22	17	31	7	8	AutoDelfia	
Tilburg	21	17	27	7	8	AutoDelfia	
Zwolle	25	19	32	8	10	AutoDelfia	
Antwerpen	22	17	24	7	9	GSP	
Brugge	20	17	25	8	8	AutoDelfia	
Brussel ULB	24	20	29	8	9	AutoDelfia	
Brussel UCL	20	18	25	11	12	BioRad Quantase	
Gent	22	18	24	7	10	AutoDelfia	
Liege	36	35	38	17	19	ELISA home made	
Luxembourg	24	17	30	8	10	AutoDelfia	
Bio-rad	29	24	34	12	15	Quantase	
Perkin Elmer	--	--	--	--	--	AutoDelfia	
CDC	--	--	--	--	--	Delfia	
Izmir	16	13	17	7	7	Neogenesis	
x	23.8	19.9	28.6	8.6	10.2		
sd	5	5	5	3	3		
cv %	19	25	18	32	30		

observed/expected (%)	B416	B417	B418	B419	B420	mean	Remarks
Amsterdam	100	105	97	75	80	91	
Bilthoven	117	120	113	100	100	110	
Capelle	92	85	103	88	80	90	
Tilburg	88	85	90	88	80	86	
Zwolle	104	95	107	100	100	101	
Antwerpen	92	85	80	88	90	87	
Brugge	84	85	85	98	84	87	
Brussel ULB	101	102	96	103	93	99	
Brussel UCL	83	89	85	136	117	102	
Gent	93	92	81	93	101	92	
Liege	148	176	128	210	187	170	
Luxembourg	100	87	99	100	97	97	
Bio-rad	122	119	115	147	154	131	
Perkin Elmer	--	--	--	--	--	--	
CDC	--	--	--	--	--	--	
Izmir	68	67	57	81	72	69	

diverse controle's

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2011/3	eigen	eigen	brahms
Bilthoven	2011/3	609076	608525	AutoDelfia
Capelle	2011/3	610213	609725	Autodelfia
Tilburg	2011/3	609652	609288	Autodelfia
Zwolle	2011/3	606475	605635	AutoDelfia
Antwerpen	2011/3	610914	609133	GSP
Brugge	2011/3	610285	607731	Perkin Elmer Delfia
Brussel ULB	2011/3	610382	14/05/3569	Autodelfia
Brussel UCL	2011/3	185	0	Quantase BIORAD
Gent	2011/3	610921	610139	AutoDelfia
Liege	2011/3	0	0	ELISA home-made
Luxembourg	2011/3	608324	607731	AutoDelfia
Bio-rad	2011/3	187	0	0
		0	0	0
		0	0	0
Izmir	2011/3	0	0	Neogenesis

Specimen nr	Classification					Remarks
	B416	B417	B418	B419	B420	
Amsterdam	3	2	3	1	2	
Bilthoven	3	3	3	2	2	
Capelle	3	2	3	1	2	
Tilburg	2	2	3	1	2	
Zwolle	3	2	3	2	2	
Antwerpen	2	2	2	1	1	
Brugge	2	2	3	1	1	
Brussel ULB	2	2	3	1	1	
Brussel UCL	2	2	3	1	1	
Gent	2	2	2	1	1	
Liège	2	2	2	1	1	
Luxembourg	3	2	3	1	1	
Bio-rad	3	3	3	2	2	
Wallac	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	3	3	3	1	1	

Key for classification
 1=negative
 2=CHT possible
 3=CHT probable

Specimen nr	Action (based only on TSH)					Remarks
	B416	B417	B418	B419	B420	
Amsterdam	6	5	6	1	5	
Bilthoven	6	6	6	5	5	
Capelle	6	5	6	1	5	
Tilburg	5	5	6	1	5	
Zwolle	6	5	6	5	5	
Antwerpen	5	5	5	1	1	
Brugge	5	5	5	1	1	
Brussel ULB	5	5	6	1	1	
Brussel UCL	5	5	6	1	1	
Gent	5	5	5+6	1	1	
Liège	5	5	5	1	1	
Luxembourg	6	5	6	1	1	
Bio-rad	--	--	--	--	--	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	4	5	4	1	1	

Key for action
 1=none
 4=repeat analysis in same specimen
 5=request for 2nd specimen
 6=referral to paediatrician
 7=T4-analysis

expected classifications with measured concentrations					
B416	B417	B418	B419	B420	
3	2	3	1	2	
3	3	3	2	2	
3	2	3	1	2	
2	2	3	1	2	
3	2	3	2	2	
3	2	3	1	2	
2	2	3	2	2	
3	2	3	2	2	
2	2	3	2	2	
3	2	3	1	2	
3	3	3	2	2	
3	2	3	2	2	
3	3	3	2	2	
--	--	--	--	--	
--	--	--	--	--	
2	2	2	1	1	

expected actions wrt measured concentrations					
B416	B417	B418	B419	B420	
6	5	6	1	5	
6	6	6	5	5	
6	5	6	1	5	
5	5	6	1	5	
6	5	6	5	5	
6	5	6	1	5	
5	5	6	5	5	
6	5	6	5	5	
6	5	6	1	5	
6	6	6	5	5	
6	5	6	5	5	
6	6	6	5	5	
--	--	--	--	--	
--	--	--	--	--	
5	5	5	1	1	

OHP-controls RIVM survey 2011/3

Specimen nr	B416	B417	B418	B419	B420	Method	Remarks
Nominal nmol/l blood	2	27	302	102	52		
Amsterdam	2	18	238	66	27	AutoDelfia	
Bilthoven	1	21	283	79	43	AutoDelfia	
Capelle	2	15	240	70	34	AutoDelfia	
Tilburg	2	14	208	77	32	AutoDelfia	
Zwolle	2	17	252	80	41	AutoDelfia	
Antwerpen	2	19	271	77	40	AutoDelfia	
Brugge	2	16	264	81	38	AutoDelfia	
Brussel ULB	2	17	254	77	36	AutoDelfia	
Brussel UCL	--	--	--	--	--		
Gent	2	19	230	81	37	AutoDelfia	
Liege	8	21	305	104	56	ELISA home made	
Luxembourg	3	18	270	77	38	AutoDelfia	
Bio-rad	6	25	267	90	57	Quantase	
Perkin Elmer	--	--	--	--	--	AutoDelfia	
CDC	--	--	--	--	--	AutoDelfia	
Izmir	6	25	235	111	52	Neogenesis	
x	3	19	255	82	41		
sd	2.0	3.2	24.4	12.0	8.7		
cv %	66	17	10	15	21		

diverse controle's

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2011/3	609531	608888	AD
Bilthoven	2011/3	610293	609714	AutoDelfia
Capelle	2011/3	609229	607994	Autodelfia
Tilburg	2011/3	611645	610613	Autodelfia
Zwolle	2011/3	609229	607994	AutoDelfia
Antwerpen	2011/3	610155	610026	AutoDelfia
Brugge	2011/3	610599	610026	Perkin Elmer Delfia
Brussel ULB	2011/3	610782	610338	Autodelfia
Brussel UCL	2011/3	0	0	0
Gent	2011/3	610293	609714	AutoDelfia
Liege	2011/3	0	0	ELISA home-made
Luxembourg	2011/3	608804	608260	AutoDelfia
Bio-rad	2011/3	124	0	0
		0	0	0
		0	0	0
Izmir	2011/3	0	0	Neogenesis

observed/expected (%)	B416	B417	B418	B419	B420	mean	Remarks
Amsterdam	--	68	79	65	52	66	
Bilthoven	--	79	94	78	83	84	
Capelle	--	57	80	69	66	68	
Tilburg	--	53	69	76	62	65	
Zwolle	--	64	84	79	80	77	
Antwerpen	--	72	90	76	78	79	
Brugge	--	60	87	80	73	75	
Brussel ULB	--	65	84	76	71	74	
Brussel UCL	--	--	--	--	--	--	
Gent	--	71	76	80	71	74	
Liege	--	79	101	102	108	98	
Luxembourg	--	67	90	76	74	77	
Bio-rad	--	93	88	89	111	95	
Perkin Elmer	--	--	--	--	--	--	
CDC	--	--	--	--	--	--	
Izmir	--	93	78	109	102	95	

Classification

Specimen nr	B416	B417	B418	B419	B420	Remarks
Amsterdam	1	1	3	3	2	
Bilthoven	1	1	3	3	2	
Capelle	1	1	3	3	2	
Tilburg	1	1	3	3	2	
Zwolle	1	1	3	3	2	
Antwerpen	1	1	3	3	3	
Brugge	1	1	3	3	2	
Brussel ULB	1	1	3	3	2	
Brussel UCL	--	--	--	--	--	
Gent	1	1	3	3	3	
Liège	1	1	3	3	1	
Luxembourg	1	1	3	3	3	
Bio-rad	1	1	3	3	2	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	1	1	3	3	3	

Key for classification
 1=negative
 2=CAH possible
 3=CAH probable

expected classifications with measured concentrations					
B416	B417	B418	B419	B420	
1	1	3	3	2	
1	1	3	3	2	
1	1	3	3	2	
1	1	3	3	2	
1	1	3	3	2	
1	1	3	3	2	
1	1	3	3	2	
1	1	3	3	2	
--	--	--	--	--	
1	1	3	3	2	
1	1	3	3	3	
1	1	3	3	2	
1	2	3	3	3	
--	--	--	--	--	
--	--	--	--	--	
1	2	3	3	2	