

PKU-controls RIVM
survey 2012/2

diverse controle's

Specimen nr	B431	B432	B433	B434	B435	Method	Remarks	controle inzender	controle ronde	lot kit	lot calibrator	method	
Nominal mmol/l blood	64	139	214	364	664								
Amsterdam	53	127	195	339	642	MS/MS PE underivatized		Amsterdam	2012/2	612659	612104	MSMS Neobase	
Bilthoven	61	126	203	355	767	MS/MS PE underivatized		Bilthoven	2012/2	612659	611987	NeoBase underivatized	
Capelle	60	120	190	307	607	MS/MS PE underivatized		Capelle	2012/2	612659	87AC612115	PE Neobase Non Deriv.	
Tilburg	60	144	195	395	721	MS/MS PE underivatized		Tilburg	2012/2	612659	37 AC 612115	MS MS	
Zwolle	60	121	178	316	566	MS/MS PE underivatized		Zwolle	2012/2	612659	611987	MS/MS PE underivatized	
Antwerpen	68	138	215	371	690	MS/MS PE underivatized		Antwerpen	2012/2	612659	611987	NEOBASE	
Brussel ULB	64	120	191	310	618	MS/MS Derivatized		Brussel ULB	2012/2	0	0	Tandem MS/MS	
Brussel UCL	54	97	164	264	550	MS/MS Derivatized		Brussel UCL	2012/2	0	0	0	
Liege	60	132	200	301	580	MS/MS Derivatized		Liege	2012/2	0	0	Chromsystems derivatized	
Luxembourg	65	143	233	393	702	MS/MS PE underivatized		Luxembourg	2012/2	617348	616723	AutoDelfia	
Bio-Rad	88	157	235	392	733	Quantase		Bio-rad	2012/2	205	1772	0	
Perkin Elmer	66	125	172	273	495	Victor-Delfia		Perkin Elmer	2012/2	617395	0	0	Fluoremetric
CDC	--	--	--	--	--			CDC	2012/2	0	0	0	
Izmir	54	150	225	396	750	Biochrom AA		Izmir	2012/2	Biochrom		Sigma Biochrom AAA	
x	63	131	200	339	648								
cv %	14	12	11	13	13								

observed/expected (%)	B431	B432	B433	B434	B435	mean	Remarks
Amsterdam	83	91	91	93	97	91	
Bilthoven	95	91	95	98	116	99	
Capelle	94	86	89	84	91	89	
Tilburg	94	104	91	109	109	101	
Zwolle	94	87	83	87	85	87	
Antwerpen	106	99	100	102	104	102	
Brussel ULB	100	86	89	85	93	91	
Brussel UCL	84	70	77	73	83	77	
Liege	94	95	93	83	87	91	
Luxembourg	102	103	109	108	106	105	
Bio-Rad	137	113	110	108	110	116	
Perkin Elmer	104	90	80	75	75	85	
CDC	--	--	--	--	--	--	
Izmir	85	108	105	109	113	104	

Classification

Specimen nr	B431	B432	B433	B434	B435	Remarks
Amsterdam	1	1	1	2	3	
Bilthoven	1	1	2	2	3	
Capelle	1	1	1	2	3	
Tilburg	1	1	1	2	3	
Zwolle	1	1	1	2	3	
Antwerpen	1	1	2	3	3	
Brussel ULB	1	1	2	3	3	
Brussel UCL	1	1	1	2	3	
Liège	1	2	3	3	3	
Luxembourg	1	1	2	3	3	
Bio-Rad	1	1	3	3	3	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	1	2	2	3	3	

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

expected classifications with measured concentrations					
B431	B432	B433	B434	B435	
1	1	1	2	3	
1	1	2	2	3	
1	1	1	2	3	
1	1	1	2	3	
1	1	1	2	3	
1	1	2	2	3	
1	1	1	2	3	
1	1	1	2	3	
1	1	2	2	3	
1	1	2	2	3	
1	1	1	2	3	
1	1	2	2	3	
1	1	1	2	3	
--	--	--	--	--	
1	1	2	2	3	

Action

Specimen nr	B431	B432	B433	B434	B435	Remarks
Amsterdam	1	1	1	5	6	
Bilthoven	1	1	5	5	6	
Capelle	1	1	1	5	6	
Tilburg	1	1	1	5	6	
Zwolle	1	1	1	5	6	
Antwerpen	1	1	5	6	6	
Brussel ULB	1	1	5	6	6	
Brussel UCL	1	1	1	5	6	
Liège	1	5	6	6	6	
Luxembourg	1	1	5	6	6	
Bio-Rad	--	--	--	--	--	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	1	5	5	6	6	

Key for action:
 1=none
 4=repeat analysis in same scdccimen
 5=request for second scdccimen
 6=referral to paediatrician

expected actions with measured concentrations					
B431	B432	B433	B434	B435	
1	1	1	5	6	
1	1	5	5	6	
1	1	1	5	6	
1	1	1	5	6	
1	1	1	5	6	
1	1	5	5	6	
1	1	1	5	6	
1	1	1	5	6	
1	1	5	5	6	
1	1	5	5	6	
1	1	1	5	6	
1	1	1	5	6	
1	1	5	5	6	
1	1	1	5	6	
--	--	--	--	--	
1	1	5	5	6	

T4-TBG-controls RIVM survey 2012/2

Specimen nr	B431	B432	B433	B434	B435	Method	Remarks
Nominal T4 nmol/l blood	27	45	63	81	90		
Amsterdam	18	36	46	60	70	AutoDelfia	
Bilthoven	22	40	51	66	76	AutoDelfia	
Capelle	18	32	53	66	75	AutoDelfia	
Tilburg	20	40	54	71	91	GSP	
Zwolle	17	31	46	81	91	AutoDelfia	
Brussel ULB	--	--	--	--	--	AutoDelfia	
CDC	27	46	63	72	89	PerkinElmer Delfia	
Bio-rad	--	--	--	--	--	Quantase	
Perkin Elmer	23	36	53	65	75	AutoDelfia	
Izmir	21	32	52	68	78	Neogenesis	
x	21	37	52	69	81		
sd	3	5	5	6	8		
vc %	16	13	10	9	10		

observed/expected (%)	B431	B432	B433	B434	B435	mean	Remarks
Amsterdam	67	80	73	74	78	74	
Bilthoven	81	89	81	81	84	83	
Capelle	67	71	84	81	83	77	
Tilburg	74	89	86	88	101	87	
Zwolle	63	69	73	100	101	81	
Brussel ULB	--	--	--	--	--	--	
CDC	100	102	101	89	99	98	
Bio-rad	--	--	--	--	--	--	
Perkin Elmer	86	81	85	80	83	83	
Izmir	77	71	82	84	87	80	

SD-value

	B431	B432	B433	B434	B435	Remarks
Amsterdam	-3.5	-2.4	-1.8	-0.9	-0.3	
Bilthoven	-3.3	-2.3	-1.7	-0.9	-0.3	
Capelle	-3.6	-2.8	-1.6	-0.9	-0.4	
Tilburg	-3.5	-2.5	-1.8	-1.0	0.1	
Zwolle	-3.7	-3.0	-2.3	-0.6	-0.1	

Classification based on T4

	B431	B432	B433	B434	B435	Remarks
Amsterdam	3	4	4	4	1	
Bilthoven	3	4	4	1	1	
Capelle	3	4	4	1	1	
Tilburg	3	4	4	4	1	
Zwolle	3	3	4	1	1	
Brussel ULB	--	--	--	--	--	

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	2012/2	614343	612375	AD
Bilthoven	2012/2	614961	614239	AutoDelfia
Capelle	2012/2	616015	614239	AutoDelfia
Tilburg	2012/2	616539	614919	GSP
Zwolle	2012/2	613306	612375	AutoDelfia
Brussel ULB	2012/2	0	00/01/1900	-
CDC	2012/2	614343		CDC Delfia
Bio-rad	2012/2	0		0 0
Perkin Elmer	2012/2	617203		0 AutoDelfia
Izmir	23-Jun-12	0		0 Neogenesis

expected classifications with measured concentrations

B431	B432	B433	B434	B435
3	4	4	1	1
3	4	4	1	1
3	4	4	1	1
3	4	4	1	1
3	3	4	1	1

	Action based on T4					Remarks
	B431	B432	B433	B434	B435	
Amsterdam	4	3	3	2	1	
Bilthoven	4	3	3	1	1	
Capelle	4	3	3	2	1	
Tilburg	6	3	3	2	1	
Zwolle	4	4	3	1	1	
Brussel ULB	--	--	--	--	--	

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				
B431	B432	B433	B434	B435
4	3	3	2	1
4	3	3	2	1
4	3	3	2	1
4	3	3	2	1
4	4	3	1	1

Tabel 11 (continued)

Specimen nr	B431	B432	B433	B434	B435	Method	Remarks
Nominal TBG nmol/l serum	51	101	202	270	405		
Amsterdam	32	69	126	215	353	Eiken	
Bilthoven	73	113	178	225	320	Eiken	
Capelle	44	88	184	312	334	Eiken	
Tilburg	48	110	190	251	445	Eiken	
Zwolle	48	84	201	225	419	Eiken	

observed/expected (%)						mean	Remarks
Amsterdam	63	68	62	80	87	72	
Bilthoven	144	112	88	83	79	101	
Capelle	87	87	91	116	82	93	
Tilburg	95	109	94	93	110	100	
Zwolle	95	83	100	83	103	93	

T4/TBG ratio					
Amsterdam	50.0	39.1	26.2	--	--
Bilthoven	24.6	24.8	19.1	---	---
Capelle	34.1	26.1	19.0	--	--
Tilburg	33.3	23.6	17.4	--	--
Zwolle	29.2	25.0	13.9	20.0	11.9

Classification based on T4/TBG ratio

						Remarks
Amsterdam	1	1	1	--	--	
Bilthoven	5	1	1	---	---	
Capelle	5	1	1	--	--	
Tilburg	1	1	1	--	--	
Zwolle	5	5	2	5	5	

Action based on T4/TBG ratio

						Remarks
Amsterdam	1	1	1	--	--	
Bilthoven	1	1	1	---	---	
Capelle	1	1	1	--	--	
Tilburg	1	1	1	--	--	
Zwolle	1	1	5	1	1	

expected classifications wrt measured concentrations				
B431	B432	B433	B434	B435
5	1	1	5	5
5	1	1	5	5
5	1	1	5	5
5	1	1	5	5
5	5	2	5	5

expected actions wrt measured concentrations				
B431	B432	B433	B434	B435
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	5	1	1

TSH-controls RIVM
survey 2012/2

diverse controle's

Specimen nr	B431	B432	B433	B434	B435	Method	Remarks
Nominal mIU/l blood	50	24	16	10	18		
Amsterdam	44	23	14	9	16	BRAHMS	
Bilthoven	49	24	17	9	17	AutoDelfia	
Capelle	38	21	16	9	16	AutoDelfia	
Tilburg	54	28	19	12	18	GSP	
Zwolle	45	23	14	8	17	AutoDelfia	
Antwerpen	42	21	15	9	15	GSP	
Brussel ULB	43	21	15	9	17	AutoDelfia	
Brussel UCL	49	24	18	14	21	BioRad Quantase	
Liege	79	43	31	20	34	ELISA home made	
Luxembourg	48	25	15	9	17	AutoDelfia	
Bio-rad	46	23	19	12	20	Quantase	
Perkin Elmer	40	24	14	8	15	AutoDelfia	
CDC	57	28	18	10	22	Delfia	
Izmir	46	21	14	7	13	Neogenesis	
x	48.6	24.9	17.2	10.4	18.4		
sd	10	6	4	3	5		
cv %	20	22	25	31	26		

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2012/2	0	40921	Brahms
Bilthoven	2012/2	615313	614962	AutoDelfia
Capelle	2012/2	616110	614962	AutoDelfia
Tilburg	2012/2	616196	615804	GSP
Zwolle	2012/2	613552	613123	AutoDelfia
Antwerpen	2012/2	616036	615804	WALLAC GSF
Brussel ULB	2012/2	615313	20/09/3583	autodelphia Perkin Elmer
Brussel UCL	2012/2	0	0	BioRad Quantase
Liege	2012/2	0	0	ELISA home made
Luxembourg	2012/2	617084	615965	MSMS nonderivitised
Bio-rad	2012/2	192	0	0
Perkin Elmer	2012/2	617522	0	AutoDelfia
CDC	2012/2	617400	CDC	Delfia
Izmir	2012/2	0	0	Neogenesis

observed/expected (%)	B431	B432	B433	B434	B435	mean	Remarks
Amsterdam	88	96	88	90	89	90	
Bilthoven	98	100	106	90	94	98	
Capelle	76	88	100	90	89	88	
Tilburg	108	117	119	120	100	113	
Zwolle	90	96	88	80	94	90	
Antwerpen	84	88	94	90	83	88	
Brussel ULB	87	88	95	87	92	90	
Brussel UCL	97	99	114	136	116	112	
Liege	158	181	196	202	187	185	
Luxembourg	96	103	96	93	96	97	
Bio-rad	92	97	121	125	114	110	
Perkin Elmer	80	99	89	81	83	86	
CDC	115	116	114	99	122	113	
Izmir	92	88	88	71	71	82	

Specimen nr	Classification					Remarks
	B431	B432	B433	B434	B435	
Amsterdam	3	3	2	2	2	
Bilthoven	3	3	2	2	2	
Capelle	3	2	2	2	2	
Tilburg	3	3	2	2	2	
Zwolle	3	3	2	2	2	
Antwerpen	3	2	1	1	1	
Brussel ULB	3	3	4	1	3	
Brussel UCL	3	3	2	2	3	
Liège	3	3	3	2	3	
Luxembourg	3	3	3	1	3	
Bio-rad	3	3	2	2	3	
Wallac	--	--	--	--	--	
CDC	3	3	3	1	3	
Izmir	3	3	2	1	2	

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

expected classifications with measured concentrations					
B431	B432	B433	B434	B435	
3	3	2	2	2	
3	3	2	2	2	
3	2	2	2	2	
3	3	2	2	2	
3	3	2	2	2	
3	2	2	2	2	
3	2	2	2	2	
3	3	2	2	2	
3	3	3	2	3	
3	3	2	2	2	
3	3	2	2	2	
3	3	2	2	2	
3	3	2	2	3	
3	3	2	2	3	
3	2	2	1	2	

Specimen nr	Action (based only on TSH)					Remarks
	B431	B432	B433	B434	B435	
Amsterdam	6	6	5	5	5	
Bilthoven	6	6	5	5	5	
Capelle	6	5	5	5	5	
Tilburg	6	6	5	5	5	
Zwolle	6	6	5	5	5	
Antwerpen	5	5	1	1	1	
Brussel ULB	6	5	5	1	5	
Brussel UCL	6	6	5	5	6	
Liège	6	5	5	5	5	
Luxembourg	6	6	6	1	6	
Bio-rad	--	--	--	--	--	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	6	6	5	1	5	

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

expected actions wrt measured concentrations					
B431	B432	B433	B434	B435	
6	6	5	5	5	
6	6	5	5	5	
6	5	5	5	5	
6	6	5	5	5	
6	6	5	5	5	
6	5	5	5	5	
6	5	5	5	5	
6	6	5	5	5	
6	6	6	5	6	
6	6	5	5	5	
6	6	5	5	5	
6	6	5	5	5	
6	6	5	5	6	
6	5	5	1	5	

OHP-controls RIVM survey 2012/2

diverse controle's

Specimen nr	B431	B432	B433	B434	B435	Method	Remarks
Nominal nmol/l blood	2	20	39	77	202		
Amsterdam	2	13	29	59	177	AutoDelfia	
Bilthoven	2	12	25	58	174	GSP	
Capelle	1	14	24	48	144	AutoDelfia	
Tilburg	2	13	29	50	144	GSP	
Zwolle	2	14	30	59	157	AutoDelfia	
Antwerpen	1	14	30	64	172	GSP	
Brussel ULB	2	13	27	52	151	AutoDelfia	
Brussel UCL	--	--	--	--	--		
Liege	9	35	53	88	195	ELISA home made	
Luxembourg	1	15	30	60	162	AutoDelfia	
Bio-rad	7	25	45	90	236	Quantase	
Perkin Elmer	1	14	32	56	148	AutoDelfia	
CDC	--	--	--	--	--	AutoDelfia	
Izmir	4	20	41	76	180	Neogenesis	
x	3	17	33	63	170		
sd	2.5	6.5	8.5	13.5	25.0		
cv %	86	39	26	21	15		

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2012/2	615164	614702	AD
Bilthoven	2012/2	616198	615145	GSP
Capelle	2012/2	616044	615214	AutoDelfia
Tilburg	2012/2	616470	615582	GSP
Zwolle	2012/2	616044	615214	AutoDelfia
Antwerpen	2012/2	615233	614041	WALLAC GSF
Brussel ULB	2012/2	615161	613340	autodelphia Perkin Elmer
Brussel UCL	2012/2	0	0	0
Liege	2012/2	0	0	ELISA home made
Luxembourg	2012/2	0	0	0
Bio-rad	2012/2	127	0	0
Perkin Elmer	2012/2	617662	0	AutoDelfia
CDC	2012/2	0	0	0
Izmir	2012/2	0	0	Neogenesis

observed/expected (%)	B431	B432	B433	B434	B435	mean	Remarks
Amsterdam	--	64	74	77	88	76	
Bilthoven	--	59	64	76	86	71	
Capelle	--	69	62	63	71	66	
Tilburg	--	64	74	65	71	69	
Zwolle	--	69	77	77	78	75	
Antwerpen	--	69	77	84	85	79	
Brussel ULB	--	66	68	68	75	69	
Brussel UCL	--	--	--	--	--	--	
Liege	--	174	137	115	97	131	
Luxembourg	--	74	77	78	81	77	
Bio-rad	--	122	115	118	117	118	
Perkin Elmer	--	71	82	73	73	75	
CDC	--	--	--	--	--	--	
Izmir	--	101	104	100	89	99	

Classification

Specimen nr	B431	B432	B433	B434	B435	Remarks
Amsterdam	1	1	2	3	3	
Bilthoven	1	1	2	3	3	
Capelle	1	1	1	2	3	
Tilburg	1	1	2	2	3	
Zwolle	1	1	2	3	3	
Antwerpen	1	1	3	3	3	
Brussel ULB	1	1	3	3	3	
Brussel UCL	--	--	--	--	--	
Liège	1	1	1	2	3	
Luxembourg	1	1	3	3	3	
Bio-rad	1	1	2	3	3	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	1	1	2	3	3	

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

expected classifications with measured concentrations				
B431	B432	B433	B434	B435
1	1	2	3	3
1	1	2	3	3
1	1	1	2	3
1	1	2	2	3
1	1	2	3	3
1	1	2	3	3
1	1	2	2	3
--	--	--	--	--
1	2	2	3	3
1	1	2	3	3
1	2	2	3	3
1	1	2	3	3
--	--	--	--	--
1	1	2	3	3