

PKU-controls RIVM survey 2011/4

Specimen nr	B421	B422	B423	B424	B425	Method	Remarks
Nominal mmol/l blood	114	214	864	664	364		
Amsterdam	87	185	651	483	256	MS/MS PE underivatized	
Bilthoven	104	208	766	598	340	MS/MS PE underivatized	
Capelle	95	176	749	567	312	MS/MS PE underivatized	
Tilburg	111	187	766	589	308	MS/MS PE underivatized	
Zwolle	105	206	706	582	294	MS/MS PE underivatized	
Antwerpen	114	227	958	727	356	MS/MS PE underivatized	
Brugge	76	148	560	439	219	MS/MS Derivatized	
Brussel ULB	93	185	790	484	411	MS/MS Derivatized	
Brussel UCL	80	164	600	443	242	MS/MS Derivatized	
Gent	100	163	714	488	248	MS/MS Derivatized	
Liege	99	180	862	655	344	MS/MS Derivatized	
Luxembourg	114	212	860	664	341	MS/MS PE underivatized	
Bio-Rad	124	245	1060	722	419	Quantase	
Perkin Elmer	108	192	677	563	320	Victor-Delfia	
CDC	--	--	--	--	--		
Izmir	108	202	877	639	359	Biochrom AA	
x	101	192	773	576	318		
cv %	13	13	17	16	18		

observed/expected (%)	B421	B422	B423	B424	B425	mean	Remarks
Amsterdam	76	86	75	73	70	76	
Bilthoven	91	97	89	90	93	92	
Capelle	83	82	87	85	86	85	
Tilburg	97	87	89	89	85	89	
Zwolle	92	96	82	88	81	88	
Antwerpen	100	106	111	109	98	105	
Brugge	66	69	65	66	60	65	
Brussel ULB	82	86	91	73	113	89	
Brussel UCL	70	77	69	67	66	70	
Gent	87	76	83	73	68	78	
Liege	87	84	100	99	94	93	
Luxembourg	100	99	100	100	94	99	
Bio-Rad	109	114	123	109	115	114	
Perkin Elmer	95	90	78	85	88	87	
CDC	--	--	--	--	--	--	
Izmir	95	94	102	96	99	97	

diverse controle's

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2011/4	609615	18861/AC-609425	MS
Bilthoven	2011/4	609615	608861	NeoBase non-derivatized
Capelle	2011/4	609615	08061/AC609425	PerkinElmer Neobase non deriv.
Tilburg	2011/4	612659	11987 AC612115	MSMS
Zwolle	2011/4	609615	608861	MS/MS PE underivatized
Antwerpen	2011/4	609615	608861	Neobase
Brugge	2011/4	0	0	LC-MS/MS derivatized
Brussel ULB	2011/4	0	0	MSMS + derivatisation
Brussel UCL	2011/4	0	0	0
Gent	2011/4	0	0	0
Liege	2011/4	0	0	MSMS derivatized Chromsystem
Luxembourg	2011/4	608804	608260	Neobase non derivatized MSMS kit
Bio-rad	2011/4	0	1693	0
Perkin Elmer	2011/4	611338	0	Fluorometric
CDC	2011/4	0	0	0
Izmir	2011/4	Biochrom	Sigma	Biochrom AAA

Classification

Specimen nr	B421	B422	B423	B424	B425	Remarks
Amsterdam	1	1	3	3	3	
Bilthoven	1	2	3	3	2	
Capelle	1	1	3	3	2	
Tilburg	1	1	3	3	2	
Zwolle	1	2	3	3	2	
Antwerpen	1	3	3	3	3	
Brugge	1	1	3	3	2	
Brussel ULB	1	2	3	3	3	
Brussel UCL	1	1	3	3	2	
Gent	1	2	3	3	2	
Liège	1	3	3	3	3	
Luxembourg	1	2	3	3	3	
Bio-Rad	1	3	3	3	3	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	1	2	3	3	3	

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

expected classifications with measured concentrations

B421	B422	B423	B424	B425
1	1	3	3	2
1	2	3	3	2
1	1	3	3	2
1	1	3	3	2
1	2	3	3	2
1	2	3	3	2
1	1	3	3	2
1	1	3	3	3
1	1	3	3	2
1	1	3	3	2
1	1	3	3	2
1	2	3	3	2
1	2	3	3	3
1	1	3	3	2
--	--	--	--	--
1	2	3	3	2

Action

Specimen nr	B421	B422	B423	B424	B425	Remarks
Amsterdam	1	1	6	6	6	
Bilthoven	1	5	6	6	5	
Capelle	1	1	6	6	5	
Tilburg	1	1	6	6	5	
Zwolle	1	5	6	6	5	
Antwerpen	1	5	6	6	6	
Brugge	1	1	6	6	5	
Brussel ULB	1	5	6	6	6	
Brussel UCL	1	1	6	6	5	
Gent	1	5	6	6	5+6	
Liège	1	5	6	6	6	
Luxembourg	1	5	6	6	6	
Bio-Rad	--	--	--	--	--	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	1	5	6	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

B421	B422	B423	B424	B425
1	1	6	6	5
1	5	6	6	5
1	1	6	6	5
1	1	6	6	5
1	5	6	6	5
1	5	6	6	5
1	1	6	6	5
1	1	6	6	6
1	1	6	6	5
1	1	6	6	5
1	1	6	6	5
1	5	6	6	5
1	5	6	6	6
1	1	6	6	5
--	--	--	--	--
1	5	6	6	5

T4-TBG-controls RIVM survey 2011/4

Specimen nr	B421	B422	B423	B424	B425	Method	Remarks
Nominal T4 nmol/l blood	0	18	72	150	36		
Amsterdam	10	15	71	145	31	AutoDelfia	
Bilthoven	<10	13	66	149	31	AutoDelfia	
Capelle	10	11	68	161	29	AutoDelfia	
Tilburg	5	14	67	135	34	AutoDelfia	
Zwolle	5	16	68	158	29	AutoDelfia	
Brussel ULB	--	--	--	--	--	AutoDelfia	
CDC	--	16	58	137	30	PerkinElmer Delfia	
Bio-rad	--	--	--	--	--	Quantase	
Perkin Elmer	3	14	56	126	29	AutoDelfia	
Izmir	2	16	76	152	33	Neogenesis	
x	7	14	65	144	30		
sd	3	2	5	12	2		
vc %	45	12	8	8	5		

observed/expected (%)	B421	B422	B423	B424	B425	mean	Remarks
Amsterdam	--	83	99	97	86	91	
Bilthoven	--	72	92	99	86	87	
Capelle	--	61	94	107	81	86	
Tilburg	--	78	93	90	94	89	
Zwolle	--	89	94	105	81	92	
Brussel ULB	--	--	--	--	--	--	
CDC	--	91	81	91	83	86	
Bio-rad	--	--	--	--	--	--	
Perkin Elmer	--	77	78	84	81	80	
Izmir	--	87	106	101	92	96	

SD-value

	B421	B422	B423	B424	B425	Remarks
Amsterdam	-4.0	-3.7	-0.4	4.0	-2.7	
Bilthoven	-4.3	-3.9	-1.3	2.7	-3.0	
Capelle	-4.1	-4.0	-1.3	3.1	-3.2	
Tilburg	-4.3	-3.8	-1.0	2.7	-2.7	
Zwolle	-4.3	-3.7	-1.1	3.4	-3.1	

Classification based on T4

	B421	B422	B423	B424	B425	Remarks
Amsterdam	3	3	1	1	4	
Bilthoven	3	3	1	4	3	
Capelle	3	3	1	1	3	
Tilburg	3	3	4	1	4	
Zwolle	3	3	1	1	3	
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	2011/4	611561	610824	AD
Bilthoven	2011/4	610381	609674	AutoDelfia
Capelle	2011/4	612075	610824	Autodelfia
Tilburg	2011/4	612628	612375	AD
Zwolle	2011/4	611837	610824	AutoDelfia
Brussel ULB	2011/4	0	00/01/1900	0
CDC	2011/4	612647		CDC Perkin Elmer Delfia
Bio-rad	2011/4	0		0 0
Perkin Elmer	2011/4	611561		0 AutoDELFIA
Izmir	19-Dec-11	0		0 Neogenesis

expected classifications with measured concentrations

B421	B422	B423	B424	B425
3	3	1	1	4
3	3	1	1	3
3	3	1	1	3
3	3	1	1	4
3	3	1	1	3

	Action based on T4					Remarks
	B421	B422	B423	B424	B425	
Amsterdam	4	4	1	1	3	
Bilthoven	4	4	2	3	4	
Capelle	4	4	2	1	4	
Tilburg	4	4	2	1	3	
Zwolle	4	4	2	1	4	
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				
B421	B422	B423	B424	B425
4	4	1	1	3
4	4	2	1	4
4	4	2	1	4
4	4	2	1	3
4	4	2	1	4

Tabel 11 (continued)

Specimen nr	B421	B422	B423	B424	B425	Method	Remarks
Nominal TBG nmol/l serum	0	101	270	405	135		
Amsterdam	<20	78	213	340	118	Eiken	
Bilthoven	<30	103	262	315	134	Eiken	
Capelle	<20	79	193	288	108	Eiken	
Tilburg	<20	85	220	325	114	Eiken	
Zwolle	<20	81	202	279	99	Eiken	

observed/expected (%)						mean	Remarks
Amsterdam	--	77	79	84	87	82	
Bilthoven	--	102	97	78	99	94	
Capelle	--	78	71	71	80	75	
Tilburg	--	84	81	80	84	83	
Zwolle	--	80	75	69	73	74	

T4/TBG ratio					
Amsterdam	--	--	--	--	20.3
Bilthoven	>27	12.0	---	---	16.0
Capelle	>50	13.9	--	--	17.6
Tilburg	40.0	15.3	--	--	21.1
Zwolle	40.0	17.3	19.8	xx	20.2

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

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

expected classifications wrt measured concentrations				
B421	B422	B423	B424	B425
5	5	5	5	1
5	5	5	5	5
5	5	5	5	5
5	5	5	5	1
5	5	5	5	5

expected actions wrt measured concentrations				
B421	B422	B423	B424	B425
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1

TSH-controls RIVM survey 2011/4

Specimen nr	B421	B422	B423	B424	B425	Method	Remarks
Nominal mIU/l blood	30	40	12	0	27		
Amsterdam	33	43	9	<1	25	BRAHMS	
Bilthoven	35	48	13	1	29	AutoDelfia	
Capelle	26	32	9	1	23	AutoDelfia	
Tilburg	25	34	10	1	23	AutoDelfia	
Zwolle	29	38	10	<1	23	AutoDelfia	
Antwerpen	25	35	11	--	22	GSP	
Brugge	28	34	12	0	24	AutoDelfia	
Brussel ULB	24	31	10	0	21	AutoDelfia	
Brussel UCL	34	42	19	1	32	BioRad Quantase	
Gent	28	31	9	0	22	AutoDelfia	
Liege	28	34	12	1	28	ELISA home made	
Luxembourg	28	42	11	0	28	AutoDelfia	
Bio-rad	25	34	14	--	25	Quantase	
Perkin Elmer	27	31	11	--	22	AutoDelfia	
CDC	26	38	10	--	24	Delfia	
Izmir	32	47	10	1	30	Neogenesis	
x	28.3	37.1	11.2	0.6	25.0		
sd	3	5	2	0	3		
cv %	12	15	21	65	12		

observed/expected (%)	B421	B422	B423	B424	B425	mean	Remarks
Amsterdam	110	108	75	--	93	96	
Bilthoven	117	120	108	--	107	113	
Capelle	87	80	75	--	85	82	
Tilburg	83	85	83	--	85	84	
Zwolle	97	95	83	--	85	90	
Antwerpen	83	88	92	--	81	86	
Brugge	93	85	96	--	91	91	
Brussel ULB	80	78	83	--	78	80	
Brussel UCL	113	106	154	--	117	122	
Gent	93	79	75	--	81	82	
Liege	93	85	100	--	104	96	
Luxembourg	93	104	91	--	104	98	
Bio-rad	83	85	117	--	93	94	
Perkin Elmer	90	77	89	--	80	84	
CDC	88	96	83	--	88	88	
Izmir	107	117	85	--	109	105	

diverse controle's

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2011/4	0	eigen	Brahms
Bilthoven	2011/4	610382	609725	AutoDelfia
Capelle	2011/4	612158	611756	Autodelfia
Tilburg	2011/4	610921	610139	AD
Zwolle	2011/4	610580	609965	AutoDelfia
Antwerpen	2011/4	610914	609133	GSP
Brugge	2011/4	0	0	Perkin Elmer Delfia
Brussel ULB	2011/4	0	00/01/1900	Autodelfia
Brussel UCL	2011/4	187	0	BioRad Quantase
Gent	2011/4	0	0	0
Liege	2011/4	0	0	0
Luxembourg	2011/4	611285	610139	AutoDelfia
Bio-rad	2011/4	188	0	0
Perkin Elmer	2011/4	612701	0	AutoDELFLIA
CDC	2011/4	613042	CDC	Perkin Elmer Delfia
Izmir	2011/4	0	0	Neogenesis

Specimen nr	Classification					Remarks
	B421	B422	B423	B424	B425	
Amsterdam	3	3	2	1	3	
Bilthoven	3	3	2	1	3	
Capelle	3	3	2	1	3	
Tilburg	3	3	2	1	3	
Zwolle	3	3	2	1	3	
Antwerpen	2	2	1	1	2	
Brugge	3	3	1	1	2	
Brussel ULB	2	2	1	1	2	
Brussel UCL	3	3	2	1	3	
Gent	3	3	1	1	2	
Liège	2	2	1	1	2	
Luxembourg	2	2	2	1	2	
Bio-rad	3	3	2	1	3	
Wallac	--	--	--	--	--	
CDC	3	3	1	1	3	
Izmir	3	3	1	1	3	

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

Specimen nr	Action (based only on TSH)					Remarks
	B421	B422	B423	B424	B425	
Amsterdam	6	6	5	1	6	
Bilthoven	6	6	5	1	6	
Capelle	6	6	5	1	6	
Tilburg	6	6	5	1	6	
Zwolle	6	6	5	1	6	
Antwerpen	5	5	1	1	5	
Brugge	6	6	1	1	5	
Brussel ULB	5	5	1	1	5	
Brussel UCL	6	6	5	1	6	
Gent	6	6	1	1	5	
Liège	5	5	1	1	5	
Luxembourg	6	6	5	1	6	
Bio-rad	--	--	--	--	--	
Perkin Elmer	--	--	--	--	--	
CDC	--	--	--	--	--	
Izmir	6	6	1	1	6	

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					
B421	B422	B423	B424	B425	
3	3	2	1	3	
3	3	2	1	3	
3	3	2	1	3	
3	3	2	1	3	
3	3	2	1	3	
3	3	2	--	3	
3	3	2	1	3	
3	3	2	1	3	
3	3	2	1	3	
3	3	2	1	3	
3	3	2	1	3	
3	3	2	--	3	
3	3	2	--	3	
3	3	2	--	3	
3	3	2	1	3	

expected actions wrt measured concentrations					
B421	B422	B423	B424	B425	
6	6	5	1	6	
6	6	5	1	6	
6	6	5	1	6	
6	6	5	1	6	
6	6	5	1	6	
6	6	5	--	6	
6	6	5	1	6	
6	6	5	1	5	
6	6	5	1	6	
6	6	5	1	6	
6	6	5	1	6	
6	6	5	1	6	
6	6	5	--	6	
6	6	5	--	6	
6	6	5	--	6	
6	6	5	1	6	

OHP-controls RIVM survey 2011/4

Specimen nr	B421	B422	B423	B424	B425	Method	Remarks
Nominal nmol/l blood	14	39	302	202	77		
Amsterdam	10	31	279	186	61	AutoDelfia	
Bilthoven	9	29	253	154	49	AutoDelfia	
Capelle	8	31	231	126	53	AutoDelfia	
Tilburg	8	19	204	147	45	AutoDelfia	
Zwolle	11	32	264	150	54	AutoDelfia	
Antwerpen	10	38	260	194	62	AutoDelfia	
Brugge	10	34	275	172	63	AutoDelfia	
Brussel ULB	8	29	213	155	56	AutoDelfia	
Brussel UCL	--	--	--	--	--		
Gent	9	28	254	132	57	AutoDelfia	
Liege	15	37	327	192	49	ELISA home made	
Luxembourg	9	30	228	156	54	AutoDelfia	
Bio-rad	14	33	310	175	64	Quantase	
Perkin Elmer	9	29	237	179	57	AutoDelfia	
CDC	--	--	--	--	--	AutoDelfia	
Izmir	9	45	228	184	102	Neogenesis	
x	10	32	255	164	59		
sd	2.1	5.7	33.8	20.9	13.1		
cv %	21	18	13	13	22		

observed/expected (%)	B421	B422	B423	B424	B425	mean	Remarks
Amsterdam	71	79	93	92	80	83	
Bilthoven	64	74	84	76	64	73	
Capelle	57	79	77	63	69	69	
Tilburg	57	49	68	73	59	61	
Zwolle	79	82	88	74	71	79	
Antwerpen	71	97	86	96	81	86	
Brugge	71	87	91	85	82	83	
Brussel ULB	57	74	71	77	73	70	
Brussel UCL	--	--	--	--	--	--	
Gent	61	71	84	66	74	71	
Liege	109	96	108	95	65	95	
Luxembourg	67	77	76	78	71	74	
Bio-rad	96	85	103	87	84	91	
Perkin Elmer	65	75	79	89	74	76	
CDC	--	--	--	--	--	--	
Izmir	61	115	76	91	133	95	

diverse controle's

controle inzender	controle ronde	lot kit	lot calibrator	method
Amsterdam	2011/4	611484	610613	AD
Bilthoven	2011/4	610293	609714	AutoDelfia
Capelle	2011/4	612105	611730	Autodelfia
Tilburg	2011/4	611645	613439	AD
Zwolle	2011/4	611384	610613	AutoDelfia
Antwerpen	2011/4	610781	610026	GSP
Brugge	2011/4	0	0	Perkin Elmer Delfia
Brussel ULB	2011/4	0	0	Autodelfia
Brussel UCL	2011/4	0	0	0
Gent	2011/4	0	0	0
Liege	2011/4	0	0	0
Luxembourg	2011/4	609615	608861	AutoDelfia
Bio-rad	2011/4	126	0	0
Perkin Elmer	2011/4	611506	0	AutoDELFLIA
CDC	2011/4	0	0	0
Izmir	2011/4	0	0	Neogenesis

