

<div><div>Cholesterol</div><div><div>Analytical Performance Specification</div><div>RCV Calculation</div></div></div>						
Matrix	BV Estimate	median CV estimate	lower CI limit	higher CI limit	Comments	Date Updated
Serum/plasma	👤	5.3	5.0	6.4		21/9/2023
Serum/plasma	👥	16.7	14.7	17.4		21/9/2023

Colour Key for References

Included In Meta Analysis Not Included In Meta Analysis

Reference	Dataset	Estimate of CVI	Estimate of CVG	Gender	Age	State of Well Being	Matrix	Sampling Interval
<div>Intra-individual variation of some analytes in serum of patients with insulin-dependent diabetes mellitus</div> <div>Hölzel WGE, Clin Chem, 57-61, 33, 1987</div> <div>View</div>		4.37		Females	33.5	Healthy	Serum	1 per Week
<div>Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans</div> <div>Demacker PNM, Schade RWB, Jansen RTP and Van't Laar A, Atherosclerosis, 259-66, 45, 1982</div> <div>View</div>		7.3		Females	32.0	Healthy	Serum	1 per Month
<div>Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans</div> <div>Demacker PNM, Schade RWB, Jansen RTP and Van't Laar A, Atherosclerosis, 259-66, 45, 1982</div> <div>View</div>		7.7		Females	32.0	Healthy	Serum	2 per Week
<div>Biological variation and reference change value of common clinical chemistry and haematologic laboratory analytes in the elderly population</div> <div>Pineda-Tenor D , Laserna-Mendieta EJ, Timon-Zapata J,</div> <div>View</div>		6.1	14.8	Females		Healthy	Serum	1 per Week

Rodelgo-Jimenez L, Ramos-Corral R, Recio-Montealegre A and Gomez-Serranillos Reus M, Clin Chem Lab Med, 851-62, 51, 2013

View

Variabilità biologica ed analitica e differenza critica di 21 analiti “comuni”

View

5.83

Mixed

Healthy

Serum

1 per Week

Dimitri G, Bolner A and Gheller A, Biochim Clin, 401-3, 16, 1992

View

Variación biológica de lípids y lipoproteínas séricas en individuos sanos y pacientes con enfermedad renal crónica terminal

View

5.4

28.9

Mixed

Healthy

Serum

1 per Week

Corte Z and Venta R, Rev Lab Clin, 88-95, 7, 2014

View

Intra-individual variation of analytes in serum of patients with chronic liver diseases

View

4.4

Females

Healthy

Serum

1 per Week

Hölzel WGE, Clin Chem, 1133-6, 33, 1987

View

Short-term and long-term intra-individual variations and critical differences of clinical chemical laboratory parameters

View

6.5

Mixed

Healthy

Serum

1 per Month

Costongs GMPJ, Janson PCW and Bas BM, J Clin Chem Clin Biochem, 7-16, 23, 1985

View

Variability of plasma lipids and lipoproteins: the Jerusalem Lipid Research Clinic Study

View

8.7

Males

40.0

Healthy

Plasma

1 per Month

Friedlander Y, Kark JD and Stein Y, Clin Chem, 1121-6, 31, 1985

View

Day-to-day variability of serum cholesterol, trigliceryde, and high-density lipoprotein cholesterol levels

View

4.8

Mixed

32.0

Healthy

Serum

3 per Week

Bookstein MS, Gidding S,
Donovan M and Smith F, Arch
Intern Med, 1653-7, 150, 1990

View

Variation in concentrations
of lipids, lipoprotein lipids,
and apolipoproteins A-I
and B in plasma from
healthy women

Brown SA, Boerwinkle E,
Kashanian FK, Swanson N and
Patsch W, Clin Chem, 207-10, 36,
1990

View

8.2

12.55

Females

Healthy

Plasma

1 per
Other

View

Variability of plasma lipids
and lipoproteins: the
Jerusalem Lipid Research
Clinic Study

Friedlander Y, Kark JD and Stein
Y, Clin Chem, 1121-6, 31, 1985

View

7.4

Females

60.0

Healthy

Plasma

1 per
Month

View

Variability of plasma lipids
and lipoproteins: the
Jerusalem Lipid Research
Clinic Study

Friedlander Y, Kark JD and Stein
Y, Clin Chem, 1121-6, 31, 1985

View

8.3

Males

60.0

Healthy

Plasma

1 per
Month

View

Biological variation of
glucose, insulin and lipids
in lean, insulin-sensitie and
obese, insulin-resistant
chinese males without
diabetis

Rizi EP, Baig S, Toh SA and Khoo
CM, Pathology , 510-2, 48, 2016

View

10.6

15.6

Males

Healthy

Serum

1 per
Week

View

Daily variation of lipids
and hormones in sera of
healthy subjects

Hammond J, Wentz P, Statland
BE, Phillips JC and Winkel P, Clin
Chim Acta, 347-52, 73, 1976

View

4.8

19.5

Mixed

Healthy

Serum

3 per
Week

View

Variability of plasma lipids
and lipoproteins: the
Jerusalem Lipid Research
Clinic Study

Friedlander Y, Kark JD and Stein

View

8.0

Females

40.0

Healthy

Plasma

1 per
Month

Y, Clin Chem, 1121-6, 31, 1985

View

Short and long term
variability of selected
indices related to
nutritional status. II.
Vitamins, lipids, and
protein indices

View

9.2

17.5

Females

Healthy

Serum

1 per
Month

Gallagher SK, Johnson AK, Milne
DB, Clin Chem, 1449-53, 38, 1992

View

A longitudinal study of the
biological variability of
plasma lipoproteins in
healthy young adults

View

7.8

Males

28.0

Healthy

Serum

1 per
Other

Mjøs O, Rao S,Bjørø, Henden T,
Thelle D,Førde O and Miller N,
Atherosclerosis, 75-81, 34, 1979

View

Physiological and
analytical variation in
cholesterol and
triglycerides

View

5.42

Mixed

Healthy

Serum

1 per
Week

Warnick GR, Albers JJ, Lipids, 203-
8, 11, 1976

View

Short and long term
variability of selected
indices related to
nutritional status. II.
Vitamins, lipids, and
protein indices

View

7.9

17.6

Females

Healthy

Serum

1 per
Month

Gallagher SK, Johnson AK, Milne
DB, Clin Chem, 1449-53, 38, 1992

View

Physiological and
analytical variation in
cholesterol and
triglycerides

View

6.22

Mixed

Healthy

Serum

1 per
Month

Warnick GR, Albers JJ, Lipids, 203-
8, 11, 1976

View

The EuBIVAS: within- and
between-subject biological
variation data for
electrolytes, lipids, urea,
uric acid, total protein,
total bilirubin, direct
bilirubin and glucose

View

5.18

17.4

Mixed

Healthy

Serum

1 per
Week

Simultaneous glucose

Aarsand AK, Diaz-Garzón J, Fernández-Calle P, et al, Clin Chem, 1380-93, 64(9), 2018

View

Short-term intraindividual variability in lipoprotein measurements: the atherosclerosis risk communities (ARIC) study

Chambless LE, McMahon RP, Brown SA, Patsch W, Heiss G and Shen Y, Am J Epidem, 1069-1081, 0136, 1992

View

3.1

Mixed

Healthy

Plasma

1 per Week

View

Short-term intraindividual variability in lipoprotein measurements: the atherosclerosis risk communities (ARIC) study

Chambless LE, McMahon RP, Brown SA, Patsch W, Heiss G and Shen Y, Am J Epidem, 1069-1081, 0136, 1992

View

5.6

Mixed

Healthy

Plasma

1 per Week

View

Biological variability of Cholesterol, Triglyceride, Low- and High-density lipoprotein Cholesterol, Lipoprotein(a), and Apolipoproteins A-I and B

Marcovina SM, Gaur VP and Albers JJ, Clin Chem, 574-8, 40, 1994

View

6.7

Mixed

Healthy

Plasma

2 per Month

View

A longitudinal study of the biological variability of plasma lipoproteins in healthy young adults

Mjøs O, Rao S,Bjørn, Henden T, Thelle D,Førde O and Miller N, Atherosclerosis, 75-81, 34, 1979

View

6.7

Females

28.0

Healthy

Serum

1 per Other

View

Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans

Demacker PNM, Schade RWB, Jansen RTP and Van't Laar A, Atherosclerosis, 259-66, 45, 1982

View

4.8

Males

32.0

Healthy

Serum

2 per Week

View												
<div>Biological variation data applied to the selection of serum lipid ratios used as risk markers of coronary heart disease.</div> <div>Ortolá J, Castiñeiras MJ, Fuentes-Arderiu X., Clin Chem, 56-9, 38, 1992</div>												
<div>View</div>	7.0	15.4	Males	Healthy	Serum	1 per Month						
View												
<div>Within-person fluctuations of serum cholesterol and lipoproteins</div> <div>Mogadam M, Ahmed S, Mensch A and Godwin I, Arch Intern Med, 1645-8, 150, 1990</div>												
<div>View</div>	7.1		Mixed	Healthy	Serum	1 per Week						
View												
<div>Age dependence of within-subject biological variation of nine common clinical chemistry analytes</div> <div>Carobene A, Graziani MS, Lo Cascio C, Tretti L, Cremonese E, Yabarek T, Gambaro G and Ceriotti F., Clin Chem Lab Med, 841-4, 50, 2012</div>												
<div>View</div>	8.1		Mixed	Healthy	Serum	1 per Week						
View												
<div>Age dependence of within-subject biological variation of nine common clinical chemistry analytes</div> <div>Carobene A, Graziani MS, Lo Cascio C, Tretti L, Cremonese E, Yabarek T, Gambaro G and Ceriotti F., Clin Chem Lab Med, 841-4, 50, 2012</div>												
<div>View</div>	5.2		Mixed	Healthy	Serum	1 per Week						
View												
<div>Biological variation of lipids and lipoproteins in fingerstick blood</div> <div>Kafonek SD, Donovan L, Lovejoy KL and Bachorik PS, Clin Chem, 2002-7, 42, 1996</div>												
<div>View</div>	5.1		Mixed	40.3	Healthy	Serum	1 per Month					
View												
<div>Reference change values of blood analytes from physically active subjects</div> <div>Nunes LA, Brenzikofer R and Vaz de Macedo D, Eur J Appl Physiol, 191-8, 110, 2010</div>												
<div>View</div>	8.2	15.8	Males	Healthy	Serum	1 per Month						

View									
<div>The variability of and associations between measures of blood coagulation, fibrinolysis and blood lipids</div> <div><div>View</div><div>6.2</div><div>17.9</div><div>Males</div><div>21.2</div><div>Healthy</div><div>Serum</div><div>1 per Month</div></div> <div>Marckmann P, Sandström B, Jespersen J., Atherosclerosis, 235-44, 96, 1992</div>									
View									
<div>Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans</div> <div><div>View</div><div>6.1</div><div></div><div>Males</div><div>32.0</div><div>Healthy</div><div>Serum</div><div>1 per Month</div></div> <div>Demacker PNM, Schade RWB, Jansen RTP and Van't Laar A, Atherosclerosis, 259-66, 45, 1982</div>									
View									
<div>Variability in cholesterol measuraments: comparison of calculated and direct LDL cholesterol determinations</div> <div><div>View</div><div>4.7</div><div></div><div>Males</div><div></div><div>Healthy</div><div>Serum</div><div>1 per Month</div></div> <div>Schectman G, Patsches M and Sasse EA, Clin Chem, 732-7, 42, 1996</div>									
View									
<div>Variabilità biologica intra-individuo: rassegna della letteratura, contributo sperimentale e considerazioni critiche</div> <div><div>View</div><div>5.5</div><div></div><div>Mixed</div><div></div><div>Healthy</div><div>Serum</div><div>2 per Week</div></div> <div>Chitto G, Fabi A, Franzini C, Galletta G, Leonardi A, Marelli M and Morelli AM, Biochim Clin, 673-690, 18, 1994</div>									
View									
<div>Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans</div> <div><div>View</div><div>6.2</div><div></div><div>Females</div><div>32.0</div><div>Healthy</div><div>Serum</div><div>1 per Month</div></div> <div>Demacker PNM, Schade RWB, Jansen RTP and Van't Laar A, Atherosclerosis, 259-66, 45, 1982</div>									
View									

Essential data derived from biological variation for establishment and use of lipid analyses Ford RP, Ann Clin Biochem, 281-5, 26, 1989	View	4.9	17.3	Mixed	Healthy	Serum	1 per Week
View							
Biological and analytic components of variation in long-term studies of serum constituents in normal subjects. IV. Results of a study designed to eliminate long-term analytic deviations. Young DS, Harris EK and Cotlove E, Clin Chem, 403-10, 17, 1971	View	4.19	13.9	Males	Healthy	Serum	1 per Week
View							
Intra-individual variation: significant changes in parameters of lipid and carbohydrate metabolism in the individual and intra-individual variation in different test populations Godsland IF, Ann Clin Biochem, 618-24, 22, 1985	View	8.7		Mixed	Healthy	Serum	1 per Week
View							
Intra-individual variation of some analytes in serum of patients with insulin-dependent diabetes mellitus Hölzel WGE, Clin Chem, 57-61, 33, 1987	View	4.69		Males	41.8	Healthy	Serum 1 per Week
View							
Significance of various parameters derived from biological variability for lipid and lipoprotein analyses Pagani F and Panteghini M, Clin Biochem, 415-20, 26, 1993	View	3.6	15.1	Mixed	Healthy	Serum	1 per Week
View							
Biological variation of lipids and lipoproteins in fingerstick blood Kafonek SD, Donovan L, Lovejoy KL and Bachorik PS, Clin Chem,	View	5.2		Mixed	40.3	Healthy	Whole blood 1 per Month

2002-7, 42, 1996

View

Diurnal and monthly intra-individual variability of the concentration of lipids, lipoproteins and apoproteins

View

4.2

Mixed

Healthy

Serum

1 per Week

Wasenius A, Stugaard M, Otterstad JE, Froyshov D, Scand J Clin Lab Invest, 632-42, 50, 1990

View

Analytical and biologic variability in measures of hemostasis, fibrinolysis and inflammation: assesment and implications for epidemiology

View

8.8

19.8

Mixed

Healthy

Serum

1 per Month

Sakkinen PA, Macy EM, Callas PW, Cornell ES, Hayes TE, Kuller LH and Tracy RP, Am J Epidem, 261-7, 149, 1999

View

Biological variability of 26 clinical chemistry analytes in elderly people

View

5.8

11.0

Mixed

Healthy

Serum

2 per Month

Fraser CG., Cummings ST., Wilkinson SP., Neville RG., Knox JDE, Ho O and MacWalter RS, Clin Chem, 783-6, 35, 1989

View

Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans

View

6.8

Females

32.0

Healthy

Serum

2 per Week

Demacker PNM, Schade RWB, Jansen RTP and Van't Laar A, Atherosclerosis, 259-66, 45, 1982

View

Individual Character of Variation in Time-Series Studies of Healthy People II. Differences in Values for Clinical Chemical Analytes in Serum among Demographic Groups by Age and Sex

View

7.9

17.8

Mixed

Healthy

Serum

1 per Week

Williams GZ, Widdowson GM and Penton J, Clin Chem, 313-20, 24,

1978

View

Influence of hypertension and antihypertensive drugs on the biological intra-individual variation of electrolytes and lipids in serum

View

4.79

Males

41.8

Healthy

Serum

1 per Week

Hölzel WGE, Clin Chem, 1485-8, 34, 1988

View

Seasonal and biological variation of blood concentrations of total cholesterol, dehydroepiandrosterone sulfate, hemoglobin A1C, IgA, prolactin and free testosterone in healthy women

View

6.3

5.0

Females

Healthy

Serum

1 per Week

Garde AH, Hansen AM, Skovgaard LT and Christensen JM, Clin Chem, 551-9, 46, 2000

View

Biological and analytic components of variation in long-term studies of serum constituents in normal subjects

View

6.4

18.3

Females

30.0

Healthy

Serum

1 per Week

Harris EK, Kanofsky P, Shakarji G and Cotlove E, Clin Chem, 1022-7, 16, 1970

View

Seasonal and biological variation of blood concentrations of total cholesterol, dehydroepiandrosterone sulfate, hemoglobin A1C, IgA, prolactin and free testosterone in healthy women

View

5.5

5.0

Females

Healthy

Serum

1 per Month

Garde AH, Hansen AM, Skovgaard LT and Christensen JM, Clin Chem, 551-9, 46, 2000

View

Biological and analytic components of variation in long-term studies of serum constituents in

View

Serum

1 per

normal subjects	View	6.4	13.6	Mixed	30.0	Healthy	Serum	1 per Week
Harris EK, Kanofsky P, Shakarji G and Cotlove E, Clin Chem, 1022-7, 16, 1970								
View								
Biological variation and reference change value of common clinical chemistry and haematologic laboratory analytes in the elderly population	View	5.5	15.8	Males		Healthy	Serum	1 per Week
Pineda-Tenor D , Laserna-Mendieta EJ, Timon-Zapata J, Rodelgo-Jimenez L, Ramos-Corral R, Recio-Montealegre A and Gomez-Serranillos Reus M, Clin Chem Lab Med, 851-62, 51, 2013								
View								
Effect of time between measurements on within-subject variability for total cholesterol and high-density lipoprotein cholesterol in women	View	7.8		Females		Healthy	Plasma	2 per Week
Choudhury N, Lyons Wall PM and Stewart Truswell A, Clin Chem, 710-5, 40, 1994								
View								
Intra-individual variation of some analytes in serum of patients with chronic renal failure	View	6.0		Mixed		Non-healthy	Serum	"No Sampling Intervals"
Hölzel WGE, Clin Chem, 670-3, 33, 1987								
View								
Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans	View	2.5		Males	32.0	Healthy	Serum	3 per Hour
Demacker PNM, Schade RWB, Jansen RTP and Van't Laar A, Atherosclerosis, 259-66, 45, 1982								
View								
Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans	View	1.5		Females	32.0	Healthy	Serum	3 per Week

Demacker PNM, Schade RWB,
Jansen RTP and Van't Laar A,
Atherosclerosis, 259-66, 45, 1982

[View](#)

Variability of plasma lipids
and lipoproteins: the
Jerusalem Lipid Research
Clinic Study

[View](#)

8.4

Males

17.0

Healthy

Plasma

1 per
Month

Friedlander Y, Kark JD and Stein
Y, Clin Chem, 1121-6, 31, 1985

[View](#)

Short and long term
variability of selected
indices related to
nutritional status. II.
Vitamins, lipids, and
protein indices

[View](#)

2.4

19.1

Females

Healthy

Serum

1 per
Week

Gallagher SK, Johnson AK, Milne
DB, Clin Chem, 1449-53, 38, 1992

[View](#)

Short and long term
variability of selected
indices related to
nutritional status. II.
Vitamins, lipids, and
protein indices

[View](#)

3.7

10.2

Females

Healthy

Serum

1 per Day

Gallagher SK, Johnson AK, Milne
DB, Clin Chem, 1449-53, 38, 1992

[View](#)

Factors Contributing to
Intra-Individual Variation
of serum constituents: 5.
Short-Term day-to-day
and within-hour variation
of serum constituents in
healthy subjects

[View](#)

11.4

Males

Healthy

Serum

3 per Day

Winkel P, Statland BE and
Bokelund H, Clin Chem, 1520-7,
20, 1974

[View](#)

Intra-individual variation
of some analytes in serum
of patients with insulin-
dependent diabetes
mellitus

[View](#)

7.17

Males

38.7

Non-
healthy

Serum

1 per
Week

Hölzel WGE, Clin Chem, 57-61,
33, 1987

[View](#)

<div>components of variation in long-term studies of serum constituents in normal subjects</div> <div>Cotlove E, Harris EK and Williams GZ, Clin Chem, 1028-32, 16, 1970</div> <div>View</div>				Mixed		Healthy	Serum	1 per Week
<div>Estimate of biological variation of laboratory analytes based on the third National Health and Nutrition Examination Survey</div> <div>Lacher DA, Hughes JP and Carroll MD, Clin Chem, 450-2, 51, 2005</div> <div>View</div>	8.2			Males	40.0	Healthy	Serum	2 per Month
<div>Biological variability of lipoproteins and apolipoproteins in patients referred to a lipid clinic</div> <div>Kafonek SD, Derby CA and Bachorik PS, Clin Chem, 864-72, 38, 1992</div> <div>View</div>	5.2			Males	9.0	Non-healthy	Plasma	"No Sampling Intervals"
<div>Biological variability of lipoproteins and apolipoproteins in patients referred to a lipid clinic</div> <div>Kafonek SD, Derby CA and Bachorik PS, Clin Chem, 864-72, 38, 1992</div> <div>View</div>	5.9			Females	9.0	Non-healthy	Plasma	"No Sampling Intervals"
<div>Biological variability of lipoproteins and apolipoproteins in patients referred to a lipid clinic</div> <div>Kafonek SD, Derby CA and Bachorik PS, Clin Chem, 864-72, 38, 1992</div> <div>View</div>	5.0			Mixed	28.0	Non-healthy	Plasma	"No Sampling Intervals"
<div>Biological variability of lipoproteins and apolipoproteins in patients referred to a lipid clinic</div> <div>Kafonek SD, Derby CA and Bachorik PS, Clin Chem, 864-72, 38, 1992</div> <div>View</div>	4.6			Females	52.0	Non-healthy	Plasma	"No Sampling Intervals"

Age dependence of

within-subject biological variation of nine common clinical chemistry analytes

Carobene A, Graziani MS, Lo Cascio C, Tretti L, Cremonese E, Yabarek T, Gambaro G and Ceriotti F., Clin Chem Lab Med, 841-4, 50, 2012

[View](#)

4.4

Mixed

Healthy

Serum

1 per Week

[View](#)

Analytical and biological variability in biomarker measurement in the Hispanic Community Health Study/Study of Latinos

Thyagarajan B, Howard AG, Durazo-Arvizu R, Eckfeldt JH, Gellman MD, Kim RS, Liu K, Mendez AJ, Penedo FJ, Talavera GA, Youngblood ME, Zhao L and Sotres-Alvarez D, Clin Chim Acta, 129-137, 463, 2016

[View](#)

6.8

Mixed

Healthy

Serum

1 per Month

[View](#)

Biological variability of lipoproteins and apolipoproteins in patients referred to a lipid clinic

Kafonek SD, Derby CA and Bachorik PS, Clin Chem, 864-72, 38, 1992

[View](#)

5.2

Males

51.0

Non-healthy

Plasma

"No Sampling Intervals"

[View](#)

Analytical and biological variability in biomarker measurement in the Hispanic Community Health Study/Study of Latinos

Thyagarajan B, Howard AG, Durazo-Arvizu R, Eckfeldt JH, Gellman MD, Kim RS, Liu K, Mendez AJ, Penedo FJ, Talavera GA, Youngblood ME, Zhao L and Sotres-Alvarez D, Clin Chim Acta, 129-137, 463, 2016

[View](#)

20.04

Mixed

Healthy

Serum

1 per Month

[View](#)

The EuBIVAS: within- and between-subject biological variation data for electrolytes, lipids, urea, uric acid, total protein, total bilirubin, direct bilirubin and glucose

Aarsand AK, Diaz-Garzón J, Fernández-Gallo B et al. Clin

[View](#)

4.09

14.6

Females

60.0

Healthy

Serum

1 per Week

fernandez-Calle P, et al, Clin Chem, 1380-93, 64(9), 2018

View

The EuBIVAS: within- and between-subject biological variation data for electrolytes, lipids, urea, uric acid, total protein, total bilirubin, direct bilirubin and glucose

View

5.17

17.7

Males

35.0

Healthy

Serum

1 per Week

Aarsand AK, Diaz-Garzón J, Fernández-Calle P, et al, Clin Chem, 1380-93, 64(9), 2018

View

Factors Contributing to Intra-Individual Variation of Serum Constituents: 6. Physiological Day-to-Day Variation in Concentrations of 10 Specific Proteins in Sera of Healthy Subjects

View

4.8

19.5

Mixed

Healthy

Serum

1 per Day

Statland BE, Winkel P and Killingsworth LM, Clin Chem, 1635-8, 22, 1976

View

Diurnal and monthly intra-individual variability of the concentration of lipids, lipoproteins and apoproteins

View

2.4

Mixed

Healthy

Serum

3 per Hour

Wasenius A, Stugaard M, Otterstad JE, Froyshov D, Scand J Clin Lab Invest, 632-42, 50, 1990

View

Circadian rhythmic variations in serum concentrations of clinically important lipids

View

4.4

Mixed

29.5

Healthy

Serum

4 per Hour

Rivera-Coll A, Fuentes-Arderiu X and Díez-Noguera A, Clin Chem, 1549-53, 40, 1994

View

Variación biológica de lípidos y lipoproteínas séricas en individuos sanos y pacientes con enfermedad renal crónica terminal

View

7.0

39.6

Mixed

Non-healthy

Serum

1 per Month

Corte Z and Venta R, Rev Lab Clin, 88-95, 7, 2014

View												
<div>Indirect estimation of pediatric between-individual biological variation data from 22 common serum biochemistries</div> <div>Loh TP and Metz MP, Am J Clin Pathol, 683-93, 143, 2015</div>												
<div>View</div>	6.4	19.1	Males	Healthy	Serum	6 per Month						
View												
<div>Indirect estimation of pediatric between-individual biological variation data from 22 common serum biochemistries</div> <div>Loh TP and Metz MP, Am J Clin Pathol, 683-93, 143, 2015</div>												
<div>View</div>	6.3	20.3	Females	Healthy	Serum	6 per Month						
View												
<div>Derivation of pediatric within-individual biological variation by indirect sampling method</div> <div>Loh TP, Ranieri e and Metz MP, Am J Clin Pathol, 657-63, 142, 2014</div>												
<div>View</div>	7.0		Mixed	Healthy	Serum	6 per Month						
View												
<div>Biological variation and reference change value of common clinical chemistry and haematologic laboratory analytes in the elderly population</div> <div>Pineda-Tenor D , Laserna-Mendieta EJ, Timon-Zapata J, Rodelgo-Jimenez L, Ramos-Corral R, Recio-Montealegre A and Gomez-Serranillos Reus M, Clin Chem Lab Med, 851-62, 51, 2013</div>												
<div>View</div>	9.7	16.3	Females	Healthy	Serum	1 per Week						
View												
<div>Intra-individual variation of analytes in serum of patients with chronic liver diseases</div> <div>Hölzel WGE, Clin Chem, 1133-6, 33, 1987</div>												
<div>View</div>	4.8		Males	Healthy	Serum	1 per Week						
View												
<div>Biological variation and reference change value of</div>												

<div>common clinical chemistry and haematologic laboratory analytes in the elderly population</div> <div>Pineda-Tenor D , Laserna-Mendieta EJ, Timon-Zapata J, Rodelgo-Jimenez L, Ramos-Corral R, Recio-Montealegre A and Gomez-Serranillos Reus M, Clin Chem Lab Med, 851-62, 51, 2013</div> <div>View</div>	8.9	15.2	Males	Healthy	Serum	1 per Week	
View							
<div>Intra-individual variation of serum cholesterol, triglycerides and high density lipoprotein cholesterol in normal humans</div> <div>Demacker PNM, Schade RWB, Jansen RTP and Van't Laar A, Atherosclerosis, 259-66, 45, 1982</div> <div>View</div>	3.6		Females	32.0	Healthy	Serum	4 per Day
View							
<div>Short and long term variability of selected indices related to nutritional status. II. Vitamins, lipids, and protein indices</div> <div>Gallagher SK, Johnson AK, Milne DB, Clin Chem, 1449-53, 38, 1992</div> <div>View</div>	8.3	17.4	Females	Healthy	Serum	1 per Week	
View							
<div>Intra-individual variation of some analytes in serum of patients with insulin-dependent diabetes mellitus</div> <div>Hölzel WGE, Clin Chem, 57-61, 33, 1987</div> <div>View</div>	7.47		Females	31.8	Non-healthy	Serum	1 per Week
View							
<div>Biological variation of glucose, insulin and lípids in lean, insulin-sensitie and obese, insulin-resistant chinese males without diabeticis</div> <div>Rizi EP, Baig S, Toh SA and Khoo CM, Pathology , 510-2, 48, 2016</div> <div>View</div>	14.2	22.9	Males	Non-healthy	Serum	1 per Week	
View							
<div>The EuBIVAS: within- and between-subject biological variation data for electrolytes. lipids. urea.</div>							

Study of intra-individual variation of serum constituents: 1. within-day variation of serum constituents in healthy subjects Aarsand AK, Diaz-Garzón J, Fernández-Calle P, et al, Clin Chem, 1380-93, 64(9), 2018	View	6.11	13.4	Females	34.0	Healthy	Serum	1 per Week
View								
Pediatric within-day biological variation and quality specifications for 38 biochemical markers in the CALIPER cohort Bailey D, Bevilacqua V, Colantonio DA, Pasic MD, Perumal N, Chan MK and Adeli K, Clin Chem, 518-29, 60, 2014	View	2.4	15.7	Mixed		Healthy	Serum	3 per Hour
View								
Derivation of pediatric within-individual biological variation by indirect sampling method Loh TP, Ranieri e and Metz MP, Am J Clin Pathol, 657-63, 142, 2014	View	3.8		Mixed		Healthy	Serum	3 per Month
View								
Factors contributing to intra-individual variation of serum constituents: 1. within-day variation of serum constituents in healthy subjects Statland BE, Winkel P and Bokelund H, Clin Chem, 1374-9, 19, 1973	View	2.9	31.8	Males		Healthy	Serum	3 per Hour
View								
Biological variation of laboratory analytes based on the 1999–2002 National Health and Nutrition Examination Survey Lacher DA, Hughes JP and Carroll MD, Natl Health Stat Report , , 21, 2010	View	6.9		Females		Healthy	Plasma	1 per Other
View								
Biological variation of laboratory analytes based on the 1999–2002 National Health and Nutrition Examination Survey Lacher DA, Hughes JP and Carroll MD, Natl Health Stat Report , , 21, 2010	View	6.9		Mixed		Healthy	Plasma	1 per Other

Survey									
Lacher DA, Hughes JP and Carroll MD, Natl Health Stat Report , , 21, 2010									
View									
Biological variation of laboratory analytes based on the 1999–2002 National Health and Nutrition Examination Survey									
Lacher DA, Hughes JP and Carroll MD, Natl Health Stat Report , , 21, 2010		View	6.8		Males	Healthy	Plasma	1 per Other	
View									
Prognostic utility of biochemical markers of cardiovascular risk: impact of biological variability									
Alexander KS, Kazmierczak SC, Snyder CK, Oberdorf JA and Farrell DH, Clin Chem Lab Med , 1875-82, 51(9), 2013		View	7.6	12.1	Mixed	Healthy	Serum	1 per Month	
View									
Prognostic utility of biochemical markers of cardiovascular risk: impact of biological variability									
Alexander KS, Kazmierczak SC, Snyder CK, Oberdorf JA and Farrell DH, Clin Chem Lab Med , 1875-82, 51(9), 2013		View	6.4	13.0	Mixed	Healthy	Serum	3 per Week	
View									
Short-term and long-term intra-individual variations and critical differences of clinical chemical laboratory parameters									
Costongs GMPJ, Janson PCW and Bas BM, J Clin Chem Clin Biochem, 7-16, 23, 1985		View	2.8		Mixed	Healthy	Serum	4 per Day	
View									
Variability of plasma lipids and lipoproteins: the Jerusalem Lipid Research Clinic Study									
Friedlander Y, Kark JD and Stein Y, Clin Chem, 1121-6, 31, 1985		View	8.8		Females	17.0	Healthy	Plasma	1 per Month
View									
Influence of hypertension									

and antihypertensive drugs on the biological intra-individual variation of electrolytes and lipids in serum	View	6.98		Males	46.8	Non-healthy	Serum	1 per Week
Hölzel WGE, Clin Chem, 1485-8, 34, 1988								
View								
Biological variation of β -sitosterol, campesterol, and lathosterol as cholesterol absorption and synthesis biomarkers.	View	7.1	16.0	Mixed		Healthy	Serum	1 per Week
Wu AHB, Ruan W, Todd J and Lynch KL, Clinica Chimica Acta, 43-7, 430, 2014								
View								
HDL cholesterol								
LDL Cholesterol								



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