

Reference Material: Tandem MS 1

Product ID: MSMS1QC-15

Expiration Date: February 2024

Analysis Method: Non-derivatized – MS/MS non-kit

Material Storage: -20°C ± 10°C

Units: µmol/L blood

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Material Storage: -20°C ± 10°C

Units: µmol/L blood

Lot	Analyte	Enrichment	Value	95% LL	95% UL
A2215	Alanine (Ala)	0.00	256.2	203.0	309.4
A2215	Arginine (Arg)	0.00	5.2	3.3	7.0
A2215	Citrulline (Cit)	0.00	11.7	8.2	15.2
A2215	Glycine (Gly)	0.00	228.7	205.8	251.6
A2215	Leucine (Leu)	0.00	79.1	67.2	90.9
A2215	Methionine (Met)	0.00	7.2	4.7	9.7
A2215	Ornithine (Orn)	0.00	94.2	69.6	118.9
A2215	Phenylalanine (Phe)	0.00	33.5	28.1	39.0
A2215	Creatine (CRE)	0.00	174.5	145.1	203.9
A2215	Guanidinoacetic Acid (GUAC)	0.00	0.8	0.3	1.3
A2215	Creatinine (CRN)	0.00	23.0	20.5	25.4
A2215	Succinylacetone (SUAC)	0.00	0.21	0.07	0.35
A2215	Tyrosine (Tyr)	0.00	25.5	20.9	30.2
A2215	Valine (Val)	0.00	73.0	55.7	90.4
A2215	Free carnitine (C0)	0.00	12.71	11.23	14.18
A2215	Acetylcarnitine (C2)	0.00	6.71	5.89	7.52
A2215	Propionylcarnitine (C3)	0.00	1.01	0.87	1.14
A2215	Malonylcarnitine (C3DC) + Hydroxybutyrylcarnitine (C4OH)	0.00	0.03	0.02	0.04
A2215	Butyrylcarnitine (C4)	0.00	0.08	0.07	0.10
A2215	Isovalerylcarnitine (C5)	0.00	0.05	0.04	0.06
A2215	Tiglyl carnitine (C5:1)	0.00	0.00	0.00	0.01
A2215	Glutaryl carnitine (C5DC)	0.00	0.03	0.01	0.05
A2215	Hydroxyisovalerylcarnitine (C5OH)	0.00	0.53	0.47	0.60

Lot	Analyte	Enrichment	Value	95% LL	95% UL
A2215	Hexanoylcarnitine (C6)	0.00	0.01	0.00	0.02
A2215	Octanoylcarnitine (C8)	0.00	0.02	0.01	0.03
A2215	Decanoylcarnitine (C10)	0.00	0.07	0.02	0.12
A2215	Dodecanoylcarnitine (C12)	0.00	0.01	0.01	0.01
A2215	Myristoylcarnitine (C14)	0.00	0.05	0.03	0.07
A2215	Tetradecenoyl carnitine (C14:1)	0.00	0.01	0.00	0.02
A2215	Palmitoylcarnitine (C16)	0.00	0.64	0.50	0.79
A2215	Hydroxypalmitoylcarnitine (C16OH)	0.00	0.01	0.00	0.03
A2215	Stearoylcarnitine (C18)	0.00	0.48	0.42	0.54
A2215	Hydroxystearoylcarnitine (C18OH)	0.00	0.00	0.00	0.01
A2215	Adenosine (Ado)	0.00	0.26	0.14	0.38
A2215	Deoxyadenosine (dAdo)	0.00	0.06	0.00	0.12
A2215	C20:0-lysophosphatidylcholine (C20-LPC)	0.00	0.12	0.09	0.15
A2215	C22:0-lysophosphatidylcholine (C22-LPC)	0.00	0.03	0.02	0.04
A2215	C24:0-lysophosphatidylcholine (C24-LPC)	0.00	0.05	0.03	0.08
A2215	C26:0-lysophosphatidylcholine (C26-LPC)	0.00	0.02	0.01	0.03
B2215	Alanine (Ala)	200.0	399.5	344.5	454.4
B2215	Arginine (Arg)	100.0	74.6	60.3	89.0
B2215	Citrulline (Cit)	25.0	31.7	24.7	38.7
B2215	Glycine (Gly)	300.0	416.4	365.0	467.7
B2215	Leucine (Leu)	150.0	180.7	159.4	201.9
B2215	Methionine (Met)	50.0	37.3	30.9	43.7
B2215	Ornithine (Orn)	100.0	154.5	123.3	185.7
B2215	Phenylalanine (Phe)	150.0	153.4	132.6	174.3
B2215	Creatine (CRE)	50.0	205.9	176.0	235.9
B2215	Guanidinoacetic Acid (GUAC)	5.0	4.5	3.3	5.6
B2215	Creatinine (CRN)	50.0	62.3	54.0	70.7
B2215	Succinylacetone (SUAC)	2.50	1.21	0.86	1.56
B2215	Tyrosine (Tyr)	300.0	250.8	215.5	286.1
B2215	Valine (Val)	200.0	203.9	177.4	230.4
B2215	Free carnitine (C0)	10.00	22.42	20.14	24.70
B2215	Acetylcarnitine (C2)	10.00	14.83	12.37	17.29
B2215	Propionylcarnitine (C3)	4.00	3.95	3.32	4.58
B2215	Malonylcarnitine (C3DC) + Hydroxybutyrylcarnitine (C4OH)	1.00	0.23	0.18	0.28
B2215	Butyrylcarnitine (C4)	1.00	0.67	0.54	0.81
B2215	Isovalerylcarnitine (C5)	0.50	0.43	0.37	0.50

Lot	Analyte	Enrichment	Value	95% LL	95% UL
B2215	Tiglyl carnitine (C5:1)	0.50	0.26	0.22	0.31
B2215	Glutarylcarnitine (C5DC)	0.50	0.52	0.44	0.60
B2215	Hydroxyisovalerylcarnitine (C5OH)	1.00	1.10	0.93	1.27
B2215	Hexanoylcarnitine (C6)	0.50	0.32	0.27	0.37
B2215	Octanoylcarnitine (C8)	0.50	0.44	0.36	0.52
B2215	Decanoylcarnitine (C10)	0.50	0.48	0.39	0.57
B2215	Dodecanoylcarnitine (C12)	1.00	0.63	0.52	0.74
B2215	Myristoylcarnitine (C14)	0.50	0.49	0.40	0.57
B2215	Tetradecenoyl carnitine (C14:1)	0.50	0.21	0.17	0.26
B2215	Palmitoylcarnitine (C16)	4.00	3.21	2.71	3.71
B2215	Hydroxypalmitoylcarnitine (C16OH)	0.25	0.23	0.19	0.26
B2215	Stearoylcarnitine (C18)	1.00	1.14	0.96	1.31
B2215	Hydroxystearoylcarnitine (C18OH)	0.25	0.13	0.10	0.15
B2215	Adenosine (Ado)	1.00	1.01	0.78	1.24
B2215	Deoxyadenosine (dAdo)	0.50	0.53	0.39	0.68
B2215	C20:0-lysophosphatidylcholine (C20-LPC)	0.25	0.33	0.24	0.42
B2215	C22:0-lysophosphatidylcholine (C22-LPC)	0.25	0.25	0.20	0.30
B2215	C24:0-lysophosphatidylcholine (C24-LPC)	0.25	0.28	0.22	0.35
B2215	C26:0-lysophosphatidylcholine (C26-LPC)	0.25	0.28	0.23	0.32
C2215	Alanine (Ala)	400.0	609.9	486.0	733.9
C2215	Arginine (Arg)	200.0	151.6	121.5	181.6
C2215	Citrulline (Cit)	100.0	93.4	72.4	114.3
C2215	Glycine (Gly)	600.0	669.4	574.4	764.3
C2215	Leucine (Leu)	300.0	305.2	259.9	350.6
C2215	Methionine (Met)	150.0	107.9	89.7	126.0
C2215	Ornithine (Orn)	200.0	221.5	173.4	269.7
C2215	Phenylalanine (Phe)	300.0	287.5	239.0	335.9
C2215	Creatine (CRE)	200.0	327.0	265.5	388.4
C2215	Guanidinoacetic Acid (GUAC)	10.0	8.5	6.6	10.4
C2215	Creatinine (CRN)	100.0	112.7	94.9	130.5
C2215	Succinylacetone (SUAC)	10.00	4.86	2.85	6.88
C2215	Tyrosine (Tyr)	600.0	507.8	429.9	585.8
C2215	Valine (Val)	350.0	335.3	272.9	397.8
C2215	Free carnitine (C0)	20.00	34.57	30.37	38.77
C2215	Acetylcarnitine (C2)	20.00	23.65	20.75	26.55
C2215	Propionylcarnitine (C3)	8.00	7.26	6.40	8.12

Lot	Analyte	Enrichment	Value	95% LL	95% UL
C2215	Malonylcarnitine (C3DC) + Hydroxybutyrylcarnitine (C4OH)	2.50	0.49	0.39	0.59
C2215	Butyrylcarnitine (C4)	3.00	1.91	1.64	2.18
C2215	Isovalerylcarnitine (C5)	1.50	1.29	1.12	1.46
C2215	Tiglyl carnitine (C5:1)	1.50	0.84	0.66	1.02
C2215	Glutarylcarnitine (C5DC)	1.00	1.07	0.89	1.24
C2215	Hydroxyisovalerylcarnitine (C5OH)	2.00	1.77	1.52	2.02
C2215	Hexanoylcarnitine (C6)	1.00	0.67	0.57	0.77
C2215	Octanoylcarnitine (C8)	1.00	0.88	0.76	0.99
C2215	Decanoylcarnitine (C10)	1.00	0.93	0.77	1.10
C2215	Dodecanoylcarnitine (C12)	2.00	1.32	1.12	1.53
C2215	Myristoylcarnitine (C14)	1.50	1.42	1.21	1.63
C2215	Tetradecenoyl carnitine (C14:1)	1.50	0.64	0.53	0.76
C2215	Palmitoylcarnitine (C16)	8.00	6.21	5.35	7.07
C2215	Hydroxypalmitoylcarnitine (C16OH)	1.00	0.91	0.76	1.06
C2215	Stearoylcarnitine (C18)	3.00	2.80	2.33	3.28
C2215	Hydroxystearoylcarnitine (C18OH)	1.00	0.52	0.43	0.60
C2215	Adenosine (Ado)	5.00	4.63	3.90	5.37
C2215	Deoxyadenosine (dAdo)	2.50	2.62	2.19	3.06
C2215	C20:0-lysophosphatidylcholine (C20-LPC)	0.50	0.57	0.41	0.74
C2215	C22:0-lysophosphatidylcholine (C22-LPC)	0.50	0.49	0.38	0.59
C2215	C24:0-lysophosphatidylcholine (C24-LPC)	0.50	0.54	0.38	0.69
C2215	C26:0-lysophosphatidylcholine (C26-LPC)	0.50	0.56	0.43	0.70
D2215	Alanine (Ala)	600.0	724.1	627.4	820.8
D2215	Arginine (Arg)	300.0	218.3	184.1	252.5
D2215	Citrulline (Cit)	250.0	209.8	178.0	241.6
D2215	Glycine (Gly)	900.0	832.5	721.7	943.3
D2215	Leucine (Leu)	600.0	530.6	472.3	588.9
D2215	Methionine (Met)	250.0	163.0	121.3	204.7
D2215	Ornithine (Orn)	300.0	286.1	227.3	344.9
D2215	Phenylalanine (Phe)	450.0	401.7	353.9	449.5
D2215	Creatine (CRE)	400.0	442.9	379.5	506.3
D2215	Guanidinoacetic Acid (GUAC)	20.0	15.5	13.3	17.8
D2215	Creatinine (CRN)	200.0	189.3	164.1	214.4
D2215	Succinylacetone (SUAC)	20.00	7.00	4.05	9.95
D2215	Tyrosine (Tyr)	900.0	716.2	634.6	797.9
D2215	Valine (Val)	500.0	427.9	374.0	481.8

Lot	Analyte	Enrichment	Value	95% LL	95% UL
D2215	Free carnitine (C0)	30.00	44.08	37.80	50.37
D2215	Acetylcarnitine (C2)	30.00	30.18	26.83	33.53
D2215	Propionylcarnitine (C3)	12.00	9.67	8.43	10.90
D2215	Malonylcarnitine (C3DC) + Hydroxybutyrylcarnitine (C4OH)	5.50	1.07	0.82	1.31
D2215	Butyrylcarnitine (C4)	5.00	3.07	2.60	3.54
D2215	Isovalerylcarnitine (C5)	3.00	2.39	2.08	2.71
D2215	Tiglyl carnitine (C5:1)	3.00	1.59	1.32	1.86
D2215	Glutarylcarnitine (C5DC)	2.50	2.49	2.20	2.78
D2215	Hydroxyisovalerylcarnitine (C5OH)	3.00	2.28	1.98	2.57
D2215	Hexanoylcarnitine (C6)	2.50	1.61	1.40	1.83
D2215	Octanoylcarnitine (C8)	2.50	2.12	1.80	2.43
D2215	Decanoylcarnitine (C10)	2.50	2.23	1.93	2.53
D2215	Dodecanoylcarnitine (C12)	3.00	1.99	1.71	2.27
D2215	Myristoylcarnitine (C14)	3.00	2.75	2.42	3.07
D2215	Tetradecenoyl carnitine (C14:1)	3.00	1.33	1.14	1.52
D2215	Palmitoylcarnitine (C16)	12.00	8.76	7.71	9.82
D2215	Hydroxypalmitoylcarnitine (C16OH)	1.50	1.30	1.11	1.48
D2215	Stearoylcarnitine (C18)	5.00	4.12	3.59	4.65
D2215	Hydroxystearoylcarnitine (C18OH)	1.50	0.74	0.64	0.84
D2215	Adenosine (Ado)	10.00	8.28	7.20	9.36
D2215	Deoxyadenosine (dAdo)	5.00	4.71	4.10	5.33
D2215	C20:0-lysophosphatidylcholine (C20- LPC)	2.00	2.05	1.46	2.65
D2215	C22:0-lysophosphatidylcholine (C22- LPC)	2.00	1.95	1.55	2.34
D2215	C24:0-lysophosphatidylcholine (C24- LPC)	2.00	2.12	1.52	2.73
D2215	C26:0-lysophosphatidylcholine (C26- LPC)	2.00	2.35	1.84	2.86