

Newborn Screening Quality Assurance Program
Quality Control Specimen Certification

Second-Tier Methylmalonic/Propionic Acidemia and Homocystinuria by LC-MS/MS
EXPIRATION: May 2017

Method: LC-MS/MS

<i>Enrichment levels. Units are $\mu\text{mol/liter}$ whole blood.</i>				
<i>Lot</i>	Methylmalonic Acid (MMA)	Ethylmalonic Acid (EMA)	2-Methylcitric Acid (MCA)	Total Homocysteine (tHCY)
A1514	0	0	0	0
B1514	5	5	2.5	5
C1514	10	10	5	10
D1514	25	25	12.5	25
E1514	50	50	25	50

ANALYTICAL INFORMATION

<i>Lot Numbers, Mean Values (\bar{x}), and 95% Confidence Limits (CL). Units are $\mu\text{mol/liter}$ whole blood.</i>				
<i>Lot</i>	Methylmalonic Acid (MMA)	Ethylmalonic Acid (EMA)	2-Methylcitric Acid (MCA)	Total Homocysteine (tHCY)
	<i>Mean/ 95% CL</i>	<i>Mean/ 95% CL</i>	<i>Mean/ 95% CL</i>	<i>Mean/ 95% CL</i>
A1514	$\bar{x} = 0.01$ CL = 0.00 – 0.09	$\bar{x} = 0.00$ CL = 0.00 – 0.00	$\bar{x} = 0.06$ CL = 0.00 – 0.44	$\bar{x} = 7.75$ CL = 5.53 – 9.97
B1514	$\bar{x} = 4.20$ CL = 3.40 - 5.01	$\bar{x} = 4.05$ CL = 2.73 – 5.36	$\bar{x} = 1.91$ CL = 0.94 – 2.87	$\bar{x} = 10.00$ CL = 8.33 - 11.67
C1514	$\bar{x} = 8.14$ CL = 6.36 – 9.92	$\bar{x} = 7.38$ CL = 5.26 – 9.49	$\bar{x} = 3.58$ CL = 2.60 – 4.55	$\bar{x} = 14.20$ CL = 9.94 – 18.46
D1514	$\bar{x} = 18.82$ CL = 14.65 – 22.98	$\bar{x} = 17.62$ CL = 12.93 – 22.31	$\bar{x} = 8.31$ CL = 6.62 – 10.01	$\bar{x} = 24.63$ CL = 18.61 – 30.66
E1514	$\bar{x} = 40.11$ CL = 31.85 - 48.37	$\bar{x} = 38.81$ CL = 27.32 – 50.30	$\bar{x} = 17.69$ CL = 13.26 – 22.13	$\bar{x} = 48.22$ CL = 37.00 – 59.45

Note: The values provided in the above tables are for reference use only. The mean value and confidence limits (CL) are determined by CDC for each Quality Control (QC) lot. Each participating laboratory must establish its own mean values and CL for its test method with these QC materials. Temporary estimates of mean values and CL can be determined after 10 successive, independent measurements. *Slazyk WE, Hannon WH. Quality Assurance in the newborn screening laboratory. In: Therrell BL Jr, editor. Laboratory methods for neonatal screening. Washington (DC): American Public Health Association, 1993:23-46.*