Vitros® QC Solutions
and MAS™ Quality Controls SmartNote

Estimation of within-lab SD for MAS™ Quality Controls on Vitros Systems

Quality control (QC) in the core laboratory is a complex process. This involves looking at several processes to ensure both precision and accuracy of patient sample results.

The integrity of quality control samples is crucial for management of overall quality and patient management. Addressing quality issues is crucial in the identification of laboratory and requires statistical calculations that include determining mean and establishing standard deviation. The CLIA recommendations require the laboratory to establish their own mean and standard deviation for each lot of reagents that are used.

Determining the mean

The mean is determined by adding a group of measurement values and dividing the total by the actual number or measurements included. Mathematically, the equation can be expressed as below.

$$\bar{x}(mean) = \left(\sum x_i\right)/n$$

As expressed above, the **Σ** translates to the summation of the number of measurements represented by the sign x_i and n is the number of measurements included.

Calculating the standard deviation (SD)

The SD is calculated using the mathematical formula below:

$$\mathbf{SD} = \sqrt{\frac{\sum (x_i - \bar{x})^2}{(n-1)}}$$

n = number of data points
x_i = an individual data point
$\bar{x}$ = mean of the data points
SD = standard deviation

- Calculate the mean of all measurements
- For each measurement, subtract the mean from the measurement and square the result
- Calculate the mean of the squared differences
- Square root of that will give you the SD

To calculate the within-lab reproducibility, it is necessary to estimate the within-lab SD.

The within-lab reproducibility standard deviation characterizes how well the measurement procedure can reproduce the same results on different days with the same sample. If the sample is not the same (as in this self-test) then if you just calculate the SD of the results, then the obtained SD includes both the reproducibility of the procedure and the difference between the samples. The difference between the samples is, in the case of this self-test, much larger than the within-lab reproducibility.

So, if you simply calculate the standard deviation over all the results then you will not obtain within-lab reproducibility but the variability of analyte concentrations in samples, with a (small) within-lab reproducibility component added.

The recommended within-lab SD on the SmartNote were extrapolated for the Thermo Scientific™ MAS™ Quality Controls using data from QuidelOrtho Vitros® controls, which were originally established using monthly within-lab SD for Vitros chemistry systems users participating in a commercial quality control service. These values are representative of the performance of properly operating Vitros chemistry systems in multiple laboratories using multiple quality control lots. Additionally, each SD was compared to U.S. and European proficiency testing goals and adjusted accordingly.

The published within-lab SD includes the variability associated with performing replicate measurements within a day and measurements from one day to the next. The day-to-day variability includes the small variation introduced by different slide cartridges, different vials of control material, multiple calibration events, environmental influences and preventive maintenance events. These values do not include the variability due to using different slide lot numbers.

Note: suggested within-lab SDs will be reevaluated in the future using actual Thermo Scientific™ MAS™ Quality Control data on Vitros systems, once enough data is available to generate the analysis. Any suggested changes will be communicated at that time.

Why is within-lab SD important for QuidelOrtho customers?

A within-lab SD can be calculated from your daily quality control results and compared to the SmartNote within-lab SD. A calculated laboratory SD larger than the SmartNote within-lab SD indicates that system troubleshooting may be necessary.

If the calculated SD is much smaller than the SmartNote within-lab SD, you may not have included all the expected sources of variability or valid QC results may have been excluded from the calculation. If you use this calculated SD as your baseline SD, valid data points may be rejected, and troubleshooting may be performed more frequently than needed.

Range of means: how the range of means (ROM) is used

When evaluating the performance of a Vitros chemistry system using gen-assigned MAS™ Quality Controls, the mean based on two or more replicate measurements of these fluids must be within the ROM to be acceptable.

Since MAS™ Quality Controls are manufactured fluids, they do not have the same physical and chemical characteristics or "matrix" as fresh patient specimens. These differences may cause the results on different slide lots to vary. The term "matrix effects" is commonly used to describe this phenomenon. Matrix effects result in wider ROM than would otherwise be observed.

- The mean of two or more measurements can fall anywhere in the ROM (not necessarily in the center) for that particular slide gen

- When using MAS™ Quality Controls for routinely monitoring a properly operating system, all calculated means should be within the ROM. Each estimate of the mean should be statistically the same as all other estimates of the mean. The assessment of any two means will be discussed later in this module.
- It is not expected that all individual daily QC values will fall within the ROM even if the system is showing acceptable performance. However, the mean of a distribution of daily QC values for properly operating systems should always fall within the ROM.
- For calibration verification, the mean of two or more replicate measurements of MAS™ Quality Controls (called a Preliminary Baseline Mean) should fall within the ROM listed on the assay sheet.

How QuidelOrtho customers use within-lab SD for the MAS™ Controls?

The within-lab SD (WLSD) provided in the SmartNote are the recommendations for the baseline SD which each analyte should be evaluated against. This ensures that results exceeding medically acceptable guidelines are flagged and helps ensure that valid results are not unduly flagged.

MAS® CardioImmune · XL*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD				SI SD				Units	
			Level L	Level 1	Level 2	Level 3	Level L	Level 1	Level 2	Level 3	CONV	SI
CXL2504	CK-MB	Creatine Kinase-MB	N/A	0.441	1.79	3.78	N/A	0.441	1.79	3.78	ng/mL	µg/L
	CKMB2	CKMB2	N/A	0.400	1.63	3.50	N/A	0.400	1.63	3.50	ng/mL	µg/L
	hsTnI	Troponin I, High Sensitivity	6.179	26.68	110.3	1679	6.179	26.68	110.3	1679	ng/L	pg/mL
	Myog	Myoglobin	2.90	4.74	25.60	59.38	2.90	4.74	25.60	59.38	ng/mL	µg/L
	NTBNP	N-Terminal Pro B-type Natriuretic Peptide	15.5	45.2	215	763	1.83	5.33	25.3	90.1	pg/mL	pmol/L
	NBNP2	N-Terminal Pro B-type Natriuretic Peptide II	4.34	19.8	93.2	452	0.512	2.34	11.0	53.3	pg/mL	pmol/L
	TrpES	Troponin I ES	0.0106	0.0497	0.170	1.89	0.0106	0.0497	0.170	1.89	ng/mL	µg/L

**Note that product availability will vary by country. Contact your local QuidelOrtho sales representative to inquire.*

MAS® CardioImmune · XL*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD				SI SD				Units	
			Level L	Level 1	Level 2	Level 3	Level L	Level 1	Level 2	Level 3	CONV	SI
CXL2602	CK-MB	Creatine Kinase-MB	N/A	0.49	1.75	4.34	N/A	0.49	1.75	4.34	ng/mL	µg/L
	CKMB2	CKMB2	N/A	0.437	1.74	4.07	N/A	0.437	1.74	4.07	ng/mL	µg/L
	hsTnI	Troponin I, High Sensitivity	11.1	50.96	155.9	2270	11.1	50.96	155.9	2270	ng/L	pg/mL
	Myog	Myoglobin	2.71	4.9	24.22	56.2	2.71	4.9	24.22	56.2	ng/mL	µg/L
	NTBNP	N-Terminal Pro B-type Natriuretic Peptide	14.9	48.4	227	792	1.76	5.71	26.8	93.5	pg/mL	pmol/L
	NBNP2	N-Terminal Pro B-type Natriuretic Peptide II	6.24	24.7	115	537	0.736	2.91	13.6	63.4	pg/mL	pmol/L
	TrpES	Troponin I ES	0.0139	0.0693	0.174	1.86	0.0139	0.0693	0.174	1.86	ng/mL	µg/L

MAS QC lot	QO short name	LabLink analyte name	Conventional SD				SI SD				Units	
			Level L	Level 1	Level 2	Level 3	Level L	Level 1	Level 2	Level 3	CONV	SI
CXL2704	CK-MB	Creatine Kinase-MB	N/A	0.450	1.77	4.11	N/A	0.450	1.77	4.11	ng/mL	µg/L
	CKMB2	CKMB2	N/A	0.372	1.54	3.73	N/A	0.372	1.54	3.73	ng/mL	µg/L
	hsTnI	Troponin I, High Sensitivity	14.22	47.26	164.1	2601	14.22	47.26	164.1	2601	ng/L	pg/mL
	Myog	Myoglobin	2.64	5.20	23.07	54.33	2.64	5.20	23.07	54.33	ng/mL	µg/L
	NBNP2	N-Terminal Pro B-type Natriuretic Peptide II	4.10	28.3	127	556	0.484	3.34	15.0	65.6	pg/mL	pmol/L
	TrpES	Troponin I ES	0.0186	0.0704	0.193	2.17	0.0186	0.0704	0.193	2.17	ng/mL	µg/L

MAS® Omni•Cardio Ultra Low Control*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD				SI SD				Units	
			Level L	Level 1	Level 2	Level 3	Level L	Level 1	Level 2	Level 3	CONV	SI
OCRD2503U	hsTnI	Troponin I, High Sensitivity	0.895	N/A	N/A	N/A	0.895	N/A	N/A	N/A	ng/L	pg/mL

**Note that product availability will vary by country. Contact your local QuidelOrtho sales representative to inquire.*

Vitros® QC Solutions
and MAS™ Quality Controls SmartNote

MAS® Omni•IMMUNE*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2411	AFP	Alpha-Fetoprotein	0.792	4.56	9.49	0.824	4.74	9.87	IU/mL	ng/mL
	AFP2	AFP2	0.792	4.56	9.49	0.958	5.52	11.48	IU/mL	ng/mL
	B12	Vitamin B12	20.6	87.6	106.3	15.2	64.6	78.4	pg/mL	pmol/L
	B-hCG	BHCG	0.898	3.046	57.861	0.898	3.046	57.86	mIU/mL	IU/L
	BhCG2	BHCG2	0.898	3.046	57.861	0.898	3.046	57.86	mIU/mL	IU/L
	CA125	Cancer Antigen 125	0.65	3.76	9.9	0.65	3.76	9.9	U/mL	U/mL
	C125a	C125a	0.65	3.76	9.9	0.65	3.76	9.9	U/mL	U/mL
	CA153	Cancer Antigen 15- 3	1.44	3.57	6.94	1.44	3.57	6.94	U/mL	U/mL
	CA19-9	Cancer Antigen 19-9	1.37	3.40	15.8	1.37	3.40	15.8	U/mL	U/mL
	CEA	Carcinoembryonic Antigen	0.086	1.00	1.69	0.086	1.00	1.69	ng/mL	µg/L
	CEA2	CEA2	0.095	1.13	1.87	0.095	1.13	1.87	ng/mL	µg/L
	Cort	Cortisol	11.0	41.4	76.5	0.40	1.50	2.78	nmol/L	µg/dL
	E2	Estradiol	70.59	160.80	306.86	19.229	43.802	83.589	pmol/L	pg/mL
	Ferr	Ferritin	1.14	9.52	21.9	N/A	N/A	N/A	ng/mL	ng/mL
	Fol	Folate (Folic Acid)	0.247	0.556	0.783	0.559	1.26	1.77	ng/mL	nmol/L
	fPSA	Prostate Specific Antigen, Free	0.0095	0.095	0.219	0.0095	0.095	0.219	ng/mL	µg/L
	FSH	Follicle-Stimulating Hormone	0.251	2.96	5.21	0.251	2.96	5.21	mIU/mL	IU/L
	FT3	Free Triiodothyronine (FT3)	0.746	2.41	N/A	0.486	1.57	N/A	pmol/L	pg/mL
	FT3II	Free T3 II	1.538	2.43	N/A	1.001	1.58	N/A	pmol/L	pg/mL
	FT4	Thyroxine, Free (FT4)	1.01	4.89	N/A	0.078	0.380	N/A	pmol/L	ng/dL
	INS	Insulin	0.811	5.45	10.1	4.87	32.7	60.6	uIU/mL	pmol/L
	iPTH	Intact Parathyroid Hormone	4.14	11.62	201.4	0.44	1.23	21.35	pg/mL	pmol/L
	LH	Luteinizing Hormone	0.564	4.680	6.610	0.564	4.680	6.610	mIU/mL	IU/L
	PCT	Procalcitonin	0.0470	0.200	1.43	0.0470	0.200	1.43	ng/mL	µg/L
	Prog	Progesterone	0.462	3.04	4.86	0.145	0.956	1.53	nmol/L	ng/mL
	Prol	Prolactin	18.22	40.23	69.27	0.86	1.89	3.26	mIU/L	ng/mL
	Prol2	Prol2	17.79	32.16	57.78	0.84	1.51	2.72	mIU/L	ng/mL
	PSA	Prostate Specific Antigen	0.0819	0.273	2.01	0.0819	0.273	2.01	ng/mL	µg/L
	tPSA	Prostate Specific Antigen, Total	0.0809	0.344	2.86	0.0809	0.344	2.86	ng/mL	µg/L

MAS® Omni•IMMUNE*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2612	AFP	Alpha-Fetoprotein	0.888	5	10.1	0.924	5.20	10.50	IU/mL	ng/mL
	AFP2	AFP2	0.888	5	10.1	1.074	6.05	12.22	IU/mL	ng/mL
	B12	Vitamin B12	27.5	53.7	88.1	20.3	39.6	65.0	pg/mL	pmol/L
	BhCG2	BHCG	1.118	3.374	65.298	1.118	3.374	65.30	mIU/mL	IU/L
	CA125	Cancer Antigen 125	0.95	5.08	11.7	0.95	5.08	11.7	U/mL	U/mL
	C125a	C125a	0.95	5.08	11.7	0.95	5.08	11.7	U/mL	U/mL
	CA153	Cancer Antigen 15- 3	1.18	4.36	8.02	1.18	4.36	8.02	U/mL	U/mL
	CA19-9	Cancer Antigen 19-9	1.27	3.54	14.9	1.27	3.54	14.9	U/mL	U/mL
	CEA	Carcinoembryonic Antigen	0.0775	0.94	1.64	0.078	0.94	1.64	ng/mL	µg/L
	Cort	Cortisol	11	40.7	85.5	0.40	1.48	3.10	nmol/L	µg/dL
	E2	Estradiol	52.427	158.08	278.93	14.281	43.061	75.981	pmol/L	pg/mL
	Ferr	Ferritin	1.02	11.8	24.9	N/A	N/A	N/A	ng/mL	ng/mL
	Fol	Folate (Folic Acid)	0.368	0.563	0.902	0.83	1.28	2.04	ng/mL	nmol/L
	fPSA	Prostate Specific Antigen, Free	0.0154	0.104	0.282	0.0154	0.104	0.282	ng/mL	µg/L
	FSH	Follicle-Stimulating Hormone	0.374	2.97	5.47	0.374	2.97	5.47	mIU/mL	IU/L
	FT3	Free Triiodothyronine (FT3)	0.69	2.37	N/A	0.45	1.54	N/A	pmol/L	pg/mL
	FT3II	Free T3 II	0.649	1.24	N/A	0.42	0.81	N/A	pmol/L	pg/mL
	FT4	Thyroxine, Free (FT4)	0.91	3.71	N/A	0.07	0.29	N/A	pmol/L	ng/dL
	INS	Insulin	1.32	5.98	12.7	7.92	35.9	76	uIU/mL	pmol/L
	LH	Luteinizing Hormone	0.638	4.91	7.26	0.638	4.91	7.26	mIU/mL	IU/L
	PCT	Procalcitonin	0.0564	0.16	1.55	0.0564	0.160	1.55	ng/mL	µg/L
	Prog	Progesterone	0.479	2.61	4.7	0.151	0.821	1.48	nmol/L	ng/mL
	Prol	Prolactin	15.67	42.01	61.01	0.7	2.0	2.9	mIU/L	ng/mL
	Prol2	Prol2	14.41	33.83	49.84	0.7	1.6	2.3	mIU/L	ng/mL
	PSA	Prostate Specific Antigen	0.0705	0.289	2.31	0.0705	0.289	2.31	ng/mL	µg/L
	tPSA	Prostate Specific Antigen, Total	0.0705	0.289	2.31	0.0705	0.289	2.31	ng/mL	µg/L

**Note that product availability will vary by country. Contact your local QuidelOrtho sales representative to inquire.*

MAS® Omni•IMMUNE*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2703	AFP	Alpha-Fetoprotein	0.657	4.31	8.1	0.683	4.48	8.42	IU/mL	ng/mL
	AFP2	AFP2	0.657	4.31	8.1	0.795	5.22	9.80	IU/mL	ng/mL
	B12	Vitamin B12	22.6	50.8	105.1	16.7	37.5	77.6	pg/mL	pmol/L
	BhCG2	BHCG	1.341	2.426	54.14	1.341	2.426	54.14	mIU/mL	IU/L
	CA125	Cancer Antigen 125	2	6.73	10.9	2.00	6.73	10.9	U/mL	U/mL
	C125a	C125a	2	6.73	10.9	2.00	6.73	10.9	U/mL	U/mL
	CA153	Cancer Antigen 15- 3	1.82	4.56	9.23	1.82	4.56	9.23	U/mL	U/mL
	CA19-9	Cancer Antigen 19-9	1.51	3.91	15.6	1.51	3.91	15.6	U/mL	U/mL
	CEA	Carcinoembryonic Antigen	0.113	0.87	1.56	0.113	0.87	1.56	ng/mL	µg/L
	CEA2	CEA2	0.123	1.00	1.74	0.123	1.00	1.74	ng/mL	µg/L
	Cort	Cortisol	11.4	59.2	81.8	0.41	2.15	2.97	nmol/L	µg/dL
	E2	Estradiol	56.008	156.48	255.3	15.257	42.625	69.544	pmol/L	pg/mL
	Ferr	Ferritin	1.14	11	25.8	N/A	N/A	N/A	ng/mL	ng/mL
	Fol	Folate (Folic Acid)	0.267	0.56	0.882	0.605	1.27	2.00	ng/mL	nmol/L
	fPSA	Prostate Specific Antigen, Free	0.0154	0.109	0.264	0.0154	0.109	0.264	ng/mL	µg/L
	FSH	Follicle-Stimulating Hormone	0.432	1.81	4.05	0.432	1.81	4.05	mIU/mL	IU/L
	FT3	Free Triiodothyronine (FT3)	0.646	2.77	N/A	0.421	1.80	N/A	pmol/L	pg/mL
	FT3II	Free T3 II	0.615	2.26	N/A	0.400	1.47	N/A	pmol/L	pg/mL
	FT4	Thyroxine, Free (FT4)	1.4	4.92	N/A	0.109	0.382	N/A	pmol/L	ng/dL
	INS	Insulin	1.28	8.91	17.9	7.68	53.5	107.4	uIU/mL	pmol/L
	iPTH	Intact Parathyroid Hormone	4.03	10.30	159.8	0.43	1.09	16.94	pg/mL	pmol/L
	LH	Luteinizing Hormone	0.486	4.450	6.340	0.486	4.450	6.340	mIU/mL	IU/L
	PCT	Procalcitonin	0.0525	0.218	1.46	0.0525	0.218	1.46	ng/mL	µg/L
	Prog	Progesterone	0.462	2.81	5.01	0.145	0.884	1.58	nmol/L	ng/mL
	Prol	Prolactin	13.79	42.23	71.2	0.65	1.98	3.35	mIU/L	ng/mL
	Prol2	Prol2	13.34	34.91	60.07	0.63	1.64	2.82	mIU/L	ng/mL
	PSA	Prostate Specific Antigen	0.0918	0.222	2.09	0.0918	0.222	2.09	ng/mL	µg/L
	tPSA	Prostate Specific Antigen, Total	0.0657	0.212	2.25	0.0657	0.212	2.25	ng/mL	µg/L

MAS® Omni•IMMUNE*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2411	T3U	T3/T-Uptake %	1.97	2.27	N/A	1.97	2.27	N/A	%Uptake	N/A
	Testo	Testosterone	0.190	1.34	2.92	5.48	38.6	84.2	nmol/L	ng/dL
	TSH	Thyroid Stimulating Hormone	0.0292	1.82	3.77	0.0292	1.82	3.77	mIU/L	µIU/mL
	TSH3	TSH3G	0.01587	1.132	2.654	0.01587	1.132	2.654	µIU/mL	mIU/L
	TT3	Total Triiodothyronine (T3)	0.0806	0.228	0.278	0.0525	0.148	0.181	nmol/L	ng/mL
	TT4	Total Thyroxine (T4)	3.03	10.2	8.12	0.235	0.793	0.631	nmol/L	µg/dL

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2612	T3U	T3/T-Uptake %	1.75	2.54	N/A	1.75	2.54	N/A	%Uptake	N/A
	Testo	Testosterone	0.197	1.48	2.66	5.70	42.7	76.7	nmol/L	ng/dL
	TSH	Thyroid Stimulating Hormone	0.0825	1.91	3.27	0.0825	1.91	3.27	mIU/L	µIU/mL
	TSH3	TSH3G	0.05184	1.211	2.14	0.05	1.21	2.14	µIU/mL	mIU/L
	TT3	Total Triiodothyronine (T3)	0.103	0.193	0.288	0.067	0.126	0.187	nmol/L	ng/mL
	TT4	Total Thyroxine (T4)	2.76	5.56	2.87	0.214	0.432	0.223	nmol/L	µg/dL

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2703	T3U	T3/T-Uptake %	1.86	2.96	N/A	1.86	2.96	N/A	%Uptake	N/A
	Testo	Testosterone	0.375	1.61	2.46	10.82	46.4	70.9	nmol/L	ng/dL
	TSH	Thyroid Stimulating Hormone	0.0173	1.63	3.26	0.0173	1.63	3.26	mIU/L	µIU/mL
	TSH3	TSH3G	0.01254	0.966	1.913	0.01254	0.966	1.913	µIU/mL	mIU/L
	TT3	Total Triiodothyronine (T3)	0.097	0.239	0.319	0.0631	0.156	0.208	nmol/L	ng/mL
	TT4	Total Thyroxine (T4)	4.23	7.2	5.25	0.329	0.559	0.408	nmol/L	µg/dL

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MAS® Omni•IMMUNE (Amnio)*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2411	AFP	Alpha-Fetoprotein (AFP1)	0.792	4.56	9.49	0.82	4.74	9.87	IU/mL	ng/mL

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2612	AFP	Alpha-Fetoprotein (AFP1)	0.888	5.0	10.1	0.92	5.20	10.50	IU/mL	ng/mL

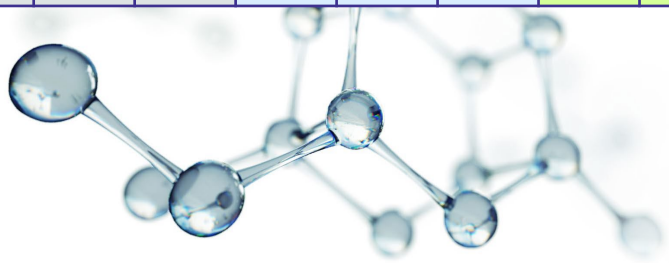
MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2703	AFP	Alpha-Fetoprotein (AFP1)	0.657	4.31	8.1	0.683	4.48	8.42	IU/mL	ng/mL

MAS® Omni•IMMUNE (Urine)*

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2411	Cort	Cortisol	11.0	41.4	76.5	0.40	1.50	2.78	nmol/L	µg/dL

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2612	Cort	Cortisol	11.0	40.7	85.5	0.40	1.48	3.10	nmol/L	µg/dL

MAS QC lot	QO short name	LabLink analyte name	Conventional SD			SI SD			Units	
			Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	CONV	SI
OIM2703	Cort	Cortisol	11.4	59.2	81.8	0.41	2.15	2.97	nmol/L	µg/dL



**Note that product availability will vary by country. Contact your local QuidelOrtho sales representative to inquire.*