

## 義大醫療 醫學檢驗部/檢驗科 公告 (2024年3月)

### 一、公告義大大昌醫院檢驗科定量檢驗項目之量測不確定度

依據 ISO15189 實驗室認證規範執行之。

- 1.量測不確定度(Uncertainty of Measurement, MU)：係指一量測結果的分散程度、可能誤差或可能存在的範圍區間。
- 2.依據 ISO15189 實驗室認證規範要求，實驗室應提供使用者量測不確定度之估計值，以幫助使用者評鑑檢驗可信度或影響報告結果。醫學檢驗部定量檢驗項目之量測不確定度如附件。
- 3.範例：

實驗室 Glucose 之兩品管濃度平均值分別為 86 mg/dL 與 285 mg/dL，公告之量測不確定度估計值分別為 2.2% (1.9 mg/dL)及 2.4% (6.84 mg/dL)。若有病人空腹血糖數值為 129 mg/dL，則病人真正結果可能落在 127.1 – 130.9 mg/dL ( $129 \pm 2.2\%$ )之間；若有血糖數值為 328 mg/dL，病人真正結果可能落在 320.1 – 335.9 mg/dL ( $328 \pm 2.4\%$ )之間。

## 定量檢驗量測不確定度一覽表(血液/血凝/血液氣體分析)

公告日期：2024年03月

表單編號：LL-Q043/02-D

	檢驗項目	目標值	量測不確定度	量測不確定度估算值		檢驗項目	目標值	量測不確定度	量測不確定度估算值
1	WBC	2.98	4.4%	2.8~3.1	16	pH	6.91	0.008%	6.908~6.91
		6.98	3.2%	6.8~7.2			7.41	0.014%	7.411~7.413
		16.71	2.6%	16.3~17.1			8.06	0.020%	8.053~8.057
2	RBC	2.30	2.5%	2.2~2.4	17	pCO <sub>2</sub>	7.32	0.008%	7.319~7.321
		4.32	1.8%	4.2~4.4			64.30	0.0197%	64.287~64.313
		4.97	1.7%	4.9~5.1			33.03	0.0515%	33.013~33.047
3	HGB	5.30	2.1%	5.2~5.4	18	pO <sub>2</sub>	31.00	0.0375%	30.988~31.012
		11.40	1.2%	11.3~11.5			21.95	0.0242%	21.945~21.955
		14.70	0.9%	14.6~14.8			109.62	2.124%	107.292~111.948
4	HCT	15.60	3.5%	15.1~16.1	19	NA <sup>+</sup>	178.16	3.782%	171.422~184.898
		33.40	2.5%	32.6~34.2			5.81	5.362%	5.498~6.122
		42.30	2.4%	41.3~43.3			43.00	3.314%	41.575~44.425
5	PLT	94.00	8.2%	86.3~101.7	20	K <sup>+</sup>	105.10	0.88%	104.175~106.025
		254.00	5.5%	241.2~266.8			151.00	2.16%	147.738~154.262
		574.00	3.9%	551.7~596.3			164.40	0.80%	163.085~165.715
6	NEUT%	38.30	2.3%	36~40.6	21	Ca <sup>++</sup>	7.02	0.013%	7.019~7.021
		43.20	1.8%	41.4~45			1.90	0.003%	1.9~1.9
		47.80	1.8%	46~49.6			4.22	0.017%	4.219~4.221
7	LYMPH%	36.20	2.3%	33.9~38.5	22	CL <sup>-</sup>	14.53	0.008%	14.529~14.531
		28.50	1.9%	26.6~30.4			1.81	0.01%	1.81~1.81
		25.50	0.9%	24.6~26.4			0.78	0.03%	0.78~0.78
8	MONO%	11.40	2.0%	9.4~13.4	23	tHb	1.22	0.01%	1.22~1.22
		13.20	1.7%	11.5~14.9			46.0	0.01%	45.996~46.004
		10.60	0.9%	9.7~11.5			84.9	0.01%	84.887~84.913
9	EOS%	9.20	1.3%	7.9~10.5	24	O <sub>2</sub> Hb	138.3	0.01%	138.285~138.315
		10.20	1.5%	8.7~11.7			14.42	0.08%	14.409~14.431
		11.30	1.7%	9.6~13			7.20	0.00%	7.2~7.2
10	BASO%	4.80	0.4%	4.4~5.2	25	HHb	89.4	0.00%	89.4~89.4
		4.80	0.2%	4.6~5			69.5	0.00%	69.499~69.501
		4.80	0.2%	4.6~5			6.6	0.00%	6.6~6.6
11	RET%	5.90	9.6%	5.3~6.5	26	COHb	22.0	0.01%	21.998~22.002
		2.28	7.7%	2.1~2.5			2.30	0.0083%	2.3~2.3
		1.24	10.0%	1.1~1.4			4.50	0.0220%	4.499~4.501
12	HbA1c	5.10	3.6%	5.06~5.14	27	MetHb	1.03	0.0125%	1.03~1.03
		10.10	2.4%	10.08~10.12			4.00	0.0100%	4~4
13	PT	10.9	3.0%	10.6~11.2					
		28.3	7.3%	26.2~30.4					
14	APTT	27.0	3.6%	26~28					
		50.0	4.8%	47.6~52.4					
15	D-DIMER	0.31	8.2%	0.28~0.34					
		2.45	6.6%	2.29~2.61					

## 定量檢驗量測不確定度一覽表(生化/免疫)

公告日期：2024年03月

表單編號：LL-Q043/02-D

	檢驗項目	目標值	量測不 確定度	量測不確定 度估算值		檢驗項目	目標值	量測不 確定度	量測不確定 度估算值
1	Total Protein	4.1	2.6%	4~4.2	21	Potassium (K)	2.4	4.4%	2.3~2.5
		6.7	2.2%	6.6~6.8			7.7	2.6%	7.5~7.9
2	Albumin	2.59	1.6%	2.5~2.6	22	Chloride (Cl)	77	3.2%	74.5~79.5
		4.4	1.2%	4.3~4.5			120	2.2%	117.4~122.6
3	BUN	14.9	2.0%	14.6~15.2	23	Urine Creatinine	53.9	4.6%	51.4~56.4
		70.5	1.6%	69.4~71.6			117.4	5.0%	111.5~123.3
4	Creatinine	0.7	10.4%	0.6~0.8	24	Microalbumin	3.5	13.2%	3~4
		5.97	3.0%	5.8~6.1			9.6	4.4%	9.2~10
5	UA	3.5	4.2%	3.4~3.6	25	CRP	9.56	5.4%	9~10.1
		9.92	2.2%	9.7~10.1			74.34	2.6%	72.4~76.3
6	Total Bilirubin	0.58	3.6%	0.6~0.6	26	LDH	118.2	4.0%	114.2~122.2
		6.68	2.4%	6.5~6.8			406.5	4.0%	390.24~422.76
7	Direct Bilirubin	0.25	14.4%	0.21~0.29	27	Lipase	18.7	21.6%	0~40.3
		2.13	6.4%	1.99~2.27			135	15.0%	114.75~155.25
8	TG	97.5	4.8%	92.8~102.2	28	Amy	49	3.6%	45.4~52.6
		231.6	12.8%	202~261.2			387	1.4%	381.6~392.4
9	Total Cholesterol	109.1	1.4%	107.6~110.6	29	U-TP	17.5	11.8%	5.7~29.3
		280.4	1.0%	277.6~283.2			56.9	4.0%	54.62~59.18
10	HDL	19	6.4%	17.8~20.2	30	Lactate	12.49	2.6%	12.17~12.81
		48	5.4%	45.4~50.6			51.5	1.8%	50.57~52.43
11	LDL	64.7	3.0%	62.8~66.6	31	NH3	61	12.0%	53.68~68.32
		163.4	3.2%	158.2~168.6			207	5.2%	196.24~217.76
12	Calcium	5.7	3.8%	5.5~5.9	32	Alcohol	39	4.4%	37.28~40.72
		13.5	2.4%	13.2~13.8			143	3.2%	138.42~147.58
13	Phosphorous	1.8	5.4%	1.7~1.9	33	ZN	55	4.8%	52.36~57.64
		7.3	2.4%	7.1~7.5			233	3.2%	225.54~240.46
14	GOT	42.4	5.4%	40.1~44.7	34	AFP	4.32	8.4%	4~4.7
		234	2.0%	229.3~238.7			71.6	4.4%	68.4~74.8
15	GPT	24.5	8.8%	22.3~26.7	35	CEA	201	4.8%	191.4~210.6
		177.5	2.4%	173.2~181.8			1.98	13.4%	1.7~2.2
16	r-GTP	26.6	7.4%	24.6~28.6	36	CA199	16.9	6.4%	15.8~18
		133.2	3.8%	128.1~138.3			45.5	5.8%	42.9~48.1
17	CK	78.7	4.6%	75.1~82.3	37	Total PSA	37.8	18.0%	31~44.6
		629	1.6%	618.9~639.1			71.7	13.6%	61.9~81.5
18	ALK-P	89	11.6%	78.7~99.3	38	CA125	171	11.8%	150.8~191.2
		645	6.2%	605~685			0.631	9.6%	0.6~0.7
19	Glucose	61.2	2.6%	59.6~62.8	39	Total PSA	3.151	9.6%	2.8~3.5
		358.9	1.4%	353.9~363.9			21.893	9.8%	19.7~24
20	Sodium (Na)	117.9	2.0%	115.5~120.3	40	CA125	19.1	8.0%	17.6~20.6
		158.7	2.2%	155.2~162.2			46.1	7.0%	42.9~49.3
							77.8	7.0%	72.4~83.2

### 定量檢驗量測不確定度一覽表(生化/免疫)

公告日期：2024年03月

表單編號：LL-Q043/02-D

	檢驗項目	目標值	量測不 確定度	量測不確定 度估算值		檢驗項目	目標值	量測不 確定度	量測不確定 度估算值
39	Free T4	0.55	12.8%	0.5~0.6	51	BNP	90	14.2%	77.22~102.78
		1.43	8.8%	1.3~1.6			500	15.2%	424~576
		2.39	12.2%	2.1~2.7			3500	5.4%	3311~3689
40	TSH	0.04	7.8%	0.0347~0.0405	52	CA153	9.5	16.4%	7.94~11.06
		3.78	6.0%	3.6~4			40.7	8.0%	37.44~43.96
		22	6.6%	20.5~23.5			70.3	7.6%	64.96~75.64
41	TT3	83	8.4%	76~90	53	HBsAg	0.425	0.22%	0.205~0.645
		128	7.8%	118~138			3.5	0.52%	2.98~4.02
		250	9.4%	226.5~273.5			1	0.1%	0.85~1.15
42	iPTH	9.4	9.2%	8.5~10.3	54	Anti-HBs	15	2.4%	12.65~17.35
		60.5	8.6%	55.3~65.7			80.0	11.2%	68.83~91.17
		232.3	8.6%	212.3~252.3			0.3	0.02%	0.28~0.32
43	E2	59.9	17.2%	49.6~70.2	55	Anti-HCV	5	0.8%	4.16~5.84
		175	8.6%	160~190.1			5.39	6.2%	0~11.59
		481	7.2%	446.4~515.6			12.1	5.8%	6.3~17.9
44	FSH	4.31	7.2%	4~4.6	56	CKMB	41.9	6.4%	35.5~48.3
		16.67	7.0%	15.5~17.8			0.1	NA	NA
		42	7.2%	39~45			2	6.2%	0~8.2
45	LH	3.48	5.4%	3.3~3.7	57	SCC	50	6.8%	43.2~56.8
		13.43	6.2%	12.6~14.3			17.74	6.4%	11.34~24.14
		50.31	6.6%	47~53.6			30.4	6.8%	23.56~37.16
46	hCG	3.3	18.8%	2.7~3.9	58	Anti-TG(ATA)	48.44	6.4%	42.04~54.84
		24.2	9.4%	21.9~26.5			19.8	6.4%	13.4~26.2
		522.8	4.6%	498.8~546.8			32.8	6.4%	26.43~39.23
47	hs TroponinI	0.0119	18.8%	0.01~0.014	59	Anti-TPO(AMIA)	53.19	6.0%	47.19~59.19
		0.0506	10.8%	0.045~0.056			79	5.0%	75.05~82.95
		0.882	8.4%	0.808~0.956			266	1.6%	261.74~270.26
48	Prolactin	3.01	6.4%	2.82~3.2	60	Fe	131	4.6%	124.97~137.03
		12.8	4.8%	12.19~13.41			111	5.6%	104.78~117.22
		42.3	5.6%	39.93~44.67			19	10.8%	16.95~21.05
49	Testosterone	0.46	8.6%	0.42~0.5	61	RF	76	2.6%	74.02~77.98
		4.58	8.0%	4.21~4.95			29.7	8.6%	21.1~38.3
		10.36	8.8%	9.45~11.27			174	7.0%	167~181
50	Homocystein	10.78	8.0%	9.92~11.64	62	Ferritin	340	7.8%	332.2~347.8
		15.02	7.2%	13.94~16.1					
		22.51	6.6%	21.02~24					