

## SUSTRATOS / SUBSTRATES

COMPONENTE COMPONENT	VALOR TARGET	RANGO RANGE	Analytical uncertainty		UNIDAD UNIT	MÉTODO METHOD
			1 SD	2 SD		
Albúmina <i>Albumin</i>	40.2 4.02	34.0 – 46.4 3.40 – 4.64	3.10 0.31	6.19 0.62	g/L g/dL	Colorimetric method Bromocresol Green (BCG)
Bilirrubina Directa <i>Direct Bilirubin</i>	20.0	15.9 – 24.1	2.06	4.12	µmol/L	Colorimetric method with sample blank Modified Jendrassik & Grof
	1.17	0.93 – 1.41	0.12	0.24	mg/dL	
	17.4	13.5 – 21.4	1.99	3.98	µmol/L	Colorimetric method without sample blank Modified Jendrassik & Grof
	1.02	0.79 – 1.25	0.12	0.23	mg/dL	
Bilirrubina Total <i>Total Bilirubin</i>	20.0	15.7 – 24.3	2.14	4.28	µmol/L	DIRECT
	1.17	0.92 – 1.42	0.13	0.25	mg/dL	DPD Colorimetric method
	32.8	26.2 – 39.5	3.32	6.63	µmol/L	Colorimetric method with sample blank Modified Jendrassik & Grof
	1.92	1.53 – 2.31	0.19	0.39	mg/dL	
Calcio OCC <i>Calcium OCC</i>	32.8	25.8 – 39.9	3.51	7.03	µmol/L	Colorimetric method without sample blank Modified Jendrassik & Grof
	1.92	1.51 – 2.33	0.21	0.41	mg/dL	
	2.08	1.87 – 2.28	0.10	0.21	mmol/L	Cresolphthalein complexone OC
Calcio Arsenazo <i>Calcium Arsenazo</i>	8.30	7.47 – 9.13	0.42	0.83	mg/dL	
	2.08	1.87 – 2.28	0.10	0.21	mmol/L	Colorimetric , Arsenazo III
Cloruros <i>Chloride</i>	8.30	7.47 – 9.13	0.42	0.83	mg/dL	
	110	101 – 119	4.40	8.80	mmol/L	Colorimetric method
Colesterol total <i>Total Cholesterol</i>	4.61	4.01 – 5.21	0.30	0.60	mmol/L	Enzymatic colorimetric method Cholesterol Oxidase
	178	155 – 201	11.6	23.1	mg/dL	
Creatinina <i>Creatinine</i>	120	95.9 – 145	12.1	24.3	µmol/L	Kinetic colorimetric method. Creatinine Enzymatic
	1.36	1.09 – 1.63	0.14	0.27	mg/dL	
Fósforo inorgánico <i>Phosphorus inorganic</i>	1.52	1.29 – 1.75	0.11	0.23	mmol/L	Phosphomolybdate UV method / Colorimetric method
	4.71	4.00 – 5.42	0.35	0.71	mg/dL	
Glucosa <i>Glucose</i>	6.11	5.19 – 7.02	0.46	0.92	mmol/L	Glucose Oxidase. Endpoint. Enzymatic colorimetric method.
	110	93.5 – 127	8.25	16.5	mg/dL	
Hierro Ferrozine <i>Iron Ferrozine</i>	24.2	19.8 – 28.5	2.17	4.35	µmol/L	Colorimetric method. Endpoint.
	135	111 – 159	12.2	24.3	µg/dL	
Hierro Cromazurol <i>Iron Cromazurol</i>	24.2	19.8 – 28.5	2.17	4.35	µmol/L	Colorimetric method. Endpoint.
	135	111 – 159	12.2	24.3	µg/dL	
Magnesio MR <i>Magnesium MR</i>	0.94	0.77 – 1.11	0.08	0.17	mmol/L	Colorimetric method Calmagita
	2.28	1.87 – 2.69	0.21	0.41	mg/dL	
Magnesio BR <i>Magnesium BR</i>	0.94	0.82 – 1.06	0.06	0.12	mmol/L	Colorimetric method Calmagita
	2.28	1.99 – 2.57	0.14	0.29	mg/dL	
Potasio <i>Potassium</i>	5.82	5.24 – 6.40	0.29	0.58	mmol/L	ISE method–direct
	3.88	3.49 – 4.27	0.19	0.39	mmol/L	ISE method–indirect
Potasio <i>Potassium</i>	4.35	3.91 – 4.79	0.22	0.44	mmol/L	Colorimetric method KINETIC

<b>HUMAN MULTISERA NORMAL</b>	<b>LOT N° 19275</b>	<b>EXP 2026-11-30</b>
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COMPONENTE COMPONENT	VALOR TARGET	RANGO RANGE	Analytical uncertainty		UNIDAD UNIT	MÉTODO METHOD
			1 SD	2 SD		
Proteínas Totales <i>Total Protein</i>	61.8 6.18	49.4 – 74.2 4.94 – 7.42	6.18 0.62	12.4 1.24	g/L g/dL	Colorimetric method Biuret endpoint
Sodio <i>Sodium</i>	154 136	139 – 169 122 – 150	7.70 6.80	15.4 13.6	mmol/L mmol/L	ISE method–direct ISE method–indirect
Sodio <i>Sodium</i>	154	142 – 166	6.16	12.3	mmol/L	Colorimetric method KINETIC
TIBC	46.5 260	36.8 – 56.3 205 – 315	4.89 27.3	9.80 54.6	µmol/L µg/dL	Colorimetric method Saturation
Triglicéridos <i>Triglycerides</i>	1.02 90.3	0.86 – 1.18 75.9 – 105	0.08 7.22	0.16 14.4	mmol/L mg/dL	Enzymatic colorimetric method Lipase/GOD–PAP no correction
Urea <i>Urea</i>	7.56 45.4	6.43 – 8.69 38.6 – 52.2	0.57 3.41	1.13 6.81	mmol/L mg/dL	Enzymatic colorimetric. Berthelot UV Enzymatic method
Ácido úrico <i>Uric acid</i>	330 5.54	286 – 373 4.81 – 6.27	21.8 0.37	43.5 0.73	µmol/L mg/dL	Enzymatic colorimetric method Uricase / Peroxidase

### ENZIMAS / ENZYMES

COMPONENTE COMPONENT	VALOR TARGET	RANGO RANGE	Analytical uncertainty		UNIDAD UNIT	MÉTODO METHOD
			1 SD	2 SD		
Fosfatasa alcalina <i>Alkaline phosphatase</i>	248 194 159	210 – 286 164 – 223 135 – 183	18.8 14.7 12.1	37.7 29.4 24.2	U/L	Diethanolamine buffer DEA. 37°C. Diethanolamine buffer DEA. 30°C. Diethanolamine buffer DEA. 25°C. Colorimetric
ALT/GPT	39.2 29.0 22.1	31.4 – 47.0 23.2 – 34.8 17.7 – 26.5	3.92 2.90 2.21	7.84 5.80 4.42	U/L	TRIS no P5PIFCC/sfbc 37°C. UV TRIS no P5PIFCC/sfbc 30°C. UV TRIS no P5PIFCC/sfbc 25°C. UV
α–Amilasa <i>α–Amylase</i>	96.0	81.2 – 111	7.39	14.8	U/L	Total. R. Liquid stable pNPG 37°C
AST/GOT	38.6 26.2 18.5	30.7 – 46.5 20.9 – 31.6 14.7 – 22.3	3.94 2.68 1.89	7.87 5.35 3.78	U/L	TRIS no P5PIFCC/sfbc 37°C. UV TRIS no P5PIFCC/sfbc 30°C. UV TRIS no P5PIFCC/sfbc 25°C. UV
Colinesterasa <i>Cholinesterase</i>	5880	4700 – 7050	588	1180	U/L	Enzymatic colorimetric Butyrylthiocholin (37°C)
CK Total	243 152 104	199 – 287 125 – 179 85.1 – 122	21.9 13.7 9.34	43.7 27.3 18.7	U/L	CK–NAC substrate start (dgkc) 37°C. CK–NAC substrate start (dgkc) 30°C. CK–NAC substrate start (dgkc) 25°C. UV enzymatic
GGT GGT	46.3 36.4 28.9	39.4 – 53.2 30.9 – 41.9 24.6 – 33.3	3.47 2.73 2.17	6.95 5.46 4.34	U/L	G Glutamyl–3–Carbo–4–nitroanilide 37°C. G Glutamyl–3–Carbo–4–nitroanilide 30°C. G Glutamyl–3–Carbo–4–nitroanilide 25°C. Colorimetric enzymatic method
LDH LDH	382 276 194	325 – 439 235 – 318 165 – 223	28.7 20.7 14.5	57.3 41.4 29.1	U/L	Pyruvate→Lactate SFBC 37°C Pyruvate→Lactate SFBC 30°C Pyruvate→Lactate SFBC 25°C
Lipasa <i>Lipase</i>	38.9	31.1 – 46.7	3.89	7.78	U/L	Enzymatic colorimetric 37°C

LINEAR – biochemical control  
Multisera N - ΠΙΝΑΚΑΣ ΟΡΟΥ ΕΛΕΧΟΥ  
ΑΝΑΜΕΝΟΜΕΝΕΣ ΤΙΜΕΣ

LOT: 19275

Exp.: 30/11/2026

	ΤΙΤΛΟΣ	ΕΥΡΟΣ ΑΠΟΔΟΧΗΣ	ΤΙΜΗ ΣΤΟΧΟΣ	ΜΟΝΑΔΕΣ
	ALBUMIN	3.40 - 4.64	4.02	g/dl
	Alk. Phosphatase	210 - 286	248	U/L
	a-Amylase	81.2 - 111	96.0	
	BILIRUBIN Total	1.51 - 2.33	1.92	mg/dl
	BILIRUBIN Direct	0.79 - 1.25	1.02	
	CALCIUM	7.47 - 9.13	8.30	
	CHE	4700 - 7050	5880	U/L
	CHOLESTEROL	155 - 201	178	mg/dl
	CREATININE	1.09 - 1.63	1.36	
	GLUCOSE	93.5 - 127	110	
	CPK	199 - 287	243	U/L
	GAMMA GT	39.4 - 53.2	46.3	
	GOT (AST)	30.7 - 46.5	38.6	
	GPT (ALT)	31.4 - 47.0	39.2	
	IRON (Ferrozine)	111 - 159	135	μg/dl
	LDH	325 - 439	382	U/L
	LIPASE	31.1 - 46.7	38.9	
	MAGNESIUM (MR)	1.87 - 2.69	2.28	mg/dl
	PHOSPHORUS	4.00 - 5.42	4.71	
	Total PROTEIN	4.94 - 7.42	6.18	g/dl
	TRIGLYCERIDES	75.9 - 105	90.3	mg/dl
	UREA	38.6 - 52.2	45.4	
	URIC ACID	4.81 - 6.27	5.54	
	Potassium	3.49 - 4.27	3.88	mmol/L
	Sodium	122 - 150	136	