

✓ **REFERENCE**

Multiparametric High Control	MPCOX-002	1 x 2 ml	2-8°C
Human multiparametric biological fluid standardized from the reference ERM-DA470k/IFCC, sodium azide (< 1g/l)			
Lot #	19C12		
Expiry date	03/2021		
Control date	26/03/2019		
Quality control report #	DGM-QAC-REP-19030		
Document prepared and signed by	L. Ginneberge		

✓ **SAMPLES AND REFERENCE VALUES**

See the corresponding reagents technical sheet.

✓ **COMPOSITION**

The multiparametric control is a human biological fluid diluted in HEPES pH 7.4 buffer containing stabilizers, sodium azide (<1g/l) as preservative and the following human proteins:

albumin, alpha-1 antitrypsin, alpha-1 glycoprotein acid, alpha-2 macroglobulin, antithrombin III, complement C3, complement C4, ceruloplasmin, haptoglobin, IgA, IgG, IgM, prealbumin and transferrin.

✓ **PRINCIPLE OF TEST**

The human proteins of control react upon a specific antibody for corresponding protein and the turbidity induced by the formation of immune complexes is recorded at appropriate wavelength. The turbidity measured is directly proportional to the antigen concentration of the control which can be used for the validation of the calibration curve and the stability during time of this curve in immunoturbidimetry.

✓ **PRECAUTIONS**

For in vitro single diagnostic use. To be handled by entitled Personnel. Products from human source were tested and found free from HBsAg and antibodies to HCV and HIV but this material should be treated just as carefully as potentially infective. Products containing sodium azide have to be handled with care; avoid ingestion and contact with skin and mucous membranes. Sodium azide may react with lead or copper plumbing to form highly explosive metal azides.

✓ **ANALYTICAL PERFORMANCES**

See the corresponding reagents technical sheet.

✓ **PREPARATION AND REAGENTS STABILITY**

The control is ready for use; once opened, it is stable until expiry date if stored stoppered in appropriate temperature conditions and without any contamination (avoid pipetting and decantation).

✓ **METHOD OF ANALYSIS AND CALCULATION**

See the corresponding reagents technical sheet.

✓ **QUALITY CONTROL**

Accuracy and reproducibility: analytical performances can be checked with the internal quality control serum of the laboratory or with the Liquichek™ (BIO-RAD) Control sera (see the values range obtained with DiAgam reagents and indicated on the accompanying BIO-RAD sheet).

✓ **BIBLIOGRAPHY**

- (1) Certification of proteins in the human serum. Certified Referenced Material ERM®-DA470k/IFCC. I. Zegers et al. <http://irmm.jrc.ec.europa.eu/>
- (2) S. Blirup-Jensen et al. protein standardization V: value transfer. A practical protocol for the assignment of serum protein values from a reference material to a target material. Clin Chem Lab Med (2008); 46(10): 1470-1479.
- (3) G. Merlini et al. Standardizing plasma protein measurements worldwide: a challenging enterprise. Clin Chem Lab Med (2010); 48(11): 1567-1575.



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Proteins:	CONTROL	
	g/l	
	Target	Range
Albumin	62,48	49,98 - 74,98
Alpha1-Antitrypsin	2,18	1,74 - 2,62
Alpha1-Acid Glycoprotein	1,30	1,04 - 1,56
Alpha2-Macroglobulin	3,14	2,51 - 3,77
Antithrombin III*	0,38 ***	0,30 - 0,46 ***
Complement C3	2,58	2,06 - 3,10
Complement C4	0,41	0,33 - 0,49
Ceruloplasmin*	0,76 **	0,61 - 0,91 **
Haptoglobin	2,07	1,66 - 2,48
IgA	3,18	2,54 - 3,82
IgG	15,49	12,39 - 18,59
IgM	1,49	1,19 - 1,79
Prealbumin	0,34	0,27 - 0,41
Transferrin	4,09	3,27 - 4,91

Values assigned from the reference ERM-DA470k/IFCC.
*AT-III and Ceruloplasmin are referenced to external controls.

** Values compatible with the new Ceruloplasmin reagent (since Lot 17H24) and the calibrant MPREK (since Lot 17H28). In case of doubt, contact the manufacturer.

*** Values compatible with the calibrant MPREK (since Lot 17H28). In case of doubt, contact the manufacturer.