



Reference Material Producer

Accreditation Certificate

Accreditation No.RMP00020

Japanese Committee for Clinical Laboratory Standards

2-7-13, Uchikanda, Chiyoda-ku, Tokyo, 101-0047 Japan

meets the following criteria. On the basis of this, Japan Accreditation Board (JAB) grants accreditation to the said reference material producer.

Applicable accreditation criteria

: JIS Q 17034:2018 (ISO 17034:2016)

Scope of accreditation

· As described in the appendix.

Premises covered by accreditation : As described in the appendix.

Expiry date of accreditation

: March 31, 2025

Revised Renewed Initial accreditation

May 31, 2022 March 29, 2021 March 29, 2013

Y. Iizuka, President

Japan Accreditation Board





Accreditation Certificate (Page 1/8) Appendix Accreditation No. RMP00020

Japanese Committee for Clinical Laboratory Standards

Name of reference material producer	Japanese Committee for Clinical Laboratory Standards							
Address	Zip	101-0047	Address	2-7-13, Uchikanda, Chiyoda-ku, Tokyo, 101-0047 Japan				
Applied Scope of Accreditation Code of Field Category Class (1) Class (2) Type of reference Material Name of reference material Test method	B Biological and clinical properties B2 Clinical chemistry B2.3 Enzymes • Type of reference material: Certified reference material • Name of reference material: Reference standard: JSCC Enzyme • Test method: JSCC consensus method and JCCLS standard method for enzyme activity measurement Additionally, ALP and LD were determined by JCCLS standard operation procedure for enzyme activity measurement based on IFCC standard							
 Range of property values The expanded uncertainties of property values 	Rang Aspa Alan Creat Alka	ethod.	values, the elinase (AST) ase (ALT) CK): ase (ALP)	xpanded uncertainties of property values(k=2) : 100U/L-200U/L 2.4% : 100U/L-200U/L 2.4% 300U/L-600U/L 2.2% : 300U/L-600U/L 3.0% : 1)108U/L-217U/L 3.9% : 300U/L-600U/L 1.9% : 1)318U/L-635U/L 2.5%				
	amylase: 250U/L-550U/L 2.5% An expanded uncertainty represents Calibration and Measurement Capability (CMC) at approximately 95 % level of Confidence, including homogeneity and stability of the material. 1) values were determined by JCCLS standard operation procedure for enzyme activity measurement based on IFCC standard method.							





Accreditation Certificate Appendix Accredit

(Page 2/8)

Accreditation No. RMP00020

Japanese Committee for Clinical Laboratory Standards

 Applied Scope of Accreditation Code of Field

Category

Class (1)

Class (2)

• Type of reference

Material

Name of reference material

· Test method

Range of property values

 The expanded uncertainties of property values B Biological and clinical properties

B2 Clinical chemistry

B2.1 Proteins

• Type of reference material: Non-certified reference material, Unfit for metrological traceability

· Name of reference material: Multianalyte Conventional Reference Material:

MacRM-001

· Test method for each property:

C-reactive protein (CRP) :Latex terbidimetric assay

Albumin: modified BCP assay

IgG :Immunoturbidimetric assay, nephelometric immunoassay

IgA : Immunoturbidimetric assay, nephelometric immunoassay

IgM : Immunoturbidimetric assay, nephelometric immunoassay

Total protein: Biuret test

• Range of property values, Origin CRM, the expanded uncertainties of property values(k=2)

6.6% C-reactive protein (CRP) (mg/dL): 3.0-5.0 **IRMM ERM-DA474** 4.0 - 5.0IRMM ERM-DA470k 3.6% Albumin (g/dL) : IRMM ERM-DA470k 2.5% IgG (mg/dL): 800 - 16003.2% IgA (mg/dL): 200 - 500IRMM ERM-DA470k 50 - 200IRMM ERM-DA470k 4.3% IgM (mg/dL): 6.5 - 8.52.2% NIST SRM927 Total protein (mg/dL):

An expanded uncertainty represents Calibration and Measurement Capability (CMC) at approximately 95 % level of Confidence, including homogeneity and stability of the material





Accreditation Certificate (Page 3/8) Appendix Accreditation No. RMP00020

Japanese Committee for Clinical Laboratory Standards

· Applied Scope of	B Biological and clinical properties						
Accreditation Code	B2 Clinical chemistry						
of Field	B2.2 Lipids and Lipoproteins						
Category							
Class (1)							
Class (2)	TOP ON						
• Type of reference	Type of reference material: Non-certified reference material, Unfit for						
Material	metrological traceability						
• Name of reference	Name of reference material: Multianalyte Conventional Reference Material:						
material	MacRM-001						
• Test method	Test method for each property:						
	Total cholesterol: Cholesterol oxidase method, Cholesterol dehydrogenase						
	method						
	Triglyceride: Enzyme colorimetric method (elimination of free glycerol)						
	HDL-cholesterol: Direct method						
	LDL- cholesterol: Direct method						
· Range of property	Range of property values, Origin CRM, the expanded uncertainties of property						
values	values($k=2$)						
• The expanded	Total cholesterol (mg/dL): 150-250 NIST SRM1951c 1.5%						
uncertainties of	NIST SRM1951c(AK) 1.0%						
property values	JCCRM 211-3 1.3%						
	JCCRM 211-3(AK) 1.3%						
	Triglyceride (mg/dL): 80-150 NIST SRM1951c(including FG)						
	2.5%						
	JCCRM 224-8 2.4%						
	HDL-cholesterol (mg/dL): 40-80 NIST SRM1951c 3.7%						
	JCCRM 224-8 2.5%						
	LDL- cholesterol (mg/dL): 80 – 160 NIST CRM1951c 2.3%						
	JCCRM 224-8 2.9%						
	An expanded uncertainty represents Calibration and Measurement Capability (CMC						
	at approximately 95 % level of Confidence, including homogeneity and stability of						

Issue No.: RMP00020-20220531

the material





Accreditation Certificate Appendix

(Page 4/8)

Accreditation No. RMP00020

Japanese Committee for Clinical Laboratory Standards

· Applied Scope of Accreditation Code of Field

Category

Class (1)

Class (2)

· Type of reference

Material

· Name of reference

material

· Test method

· Range of property values

· The expanded uncertainties of property values

B Biological and clinical properties

B2 Clinical chemistry

B2.3 Enzymes

· Type of reference material: Non-certified reference material, Unfit for metrological traceability

· Name of reference material: Multianalyte Conventional Reference Material:

MacRM-001

· Test method for each property:

Aspartate transaminase (AST): JSCC standard method

Alanine transaminase (ALT): JSCC standard method

Alkaline Phosphatase (ALP): IFCC standard method

Lactate dehydrogenase (LD) :IFCC standard method

Amylase: JSCC standard method

Creatine Kinase (CK): JSCC standard method

γ-glutamyltransferase (γ-GT) :JSCC standard method

Cholinesterase (ChE): JSCC standard method

· Range of property values, Origin CRM, the expanded uncertainties of property values(k=2)

Aspartate transaminase (AST) (U/L):

2.7% 100 - 200JCCLS CRM-001d

Alanine transaminase (ALT) (U/L):

3.0% 100 - 200JCCLS CRM-001d

Alkaline Phosphatase (ALP) (U/L):

100 - 210JCCLS CRM-001d 4.2%

Lactate dehydrogenase (LD) (U/L):

300 - 620JCCLS CRM-001d 2.7%

amylase (U/L):

250 - 550JCCLS CRM-001d 2.9%



lac-MRA

Accreditation Certificate Appendix Accreditation

(Page 5/8)

Accreditation No. RMP00020

Japanese Committee for Clinical Laboratory Standards

3 Car	Creatine Kinase (CK) (U/L):						
3	300-600 JCCLS CRM-001d 2.8%						
	γ-glutamyltransferase (γ-GT) (U/L):						
	100-200 JCCLS CRM-001d 3.4%						
	Cholinesterase (ChE) (U/L):						
	250-500 JCCLS CRM-002d 2.1%						
137	An expanded uncertainty represents Calibration and Measurement Capability (CMC) at approximately 95 % level of Confidence, including homogeneity and stability of						
	the material						
· Applied Scope of	B Biological and clinical properties						
Accreditation Code	B2 Clinical chemistry						
of Field	B2.5 Electrolytes and Trace elements						
Category							
Class (1)							
Class (2)							
Type of reference	Type of reference material: Non-certified reference material,						
Material	Unfit for metrological traceability						
Name of reference	Name of reference material: Multianalyte Conventional Reference Material:						
material	MacRM-001						
Test method	Test method for each property:						
	Iron: Nitroso-PSAP method, Bathophenanthroline method, Ferene dye method						
	Na: Ion selective electrode method						
	K: Ion selective electrode method						
	Cl: Ion selective electrode method						
	Ca: Arsenazo III method, Enzyme method, MXBmethod,						
	Chlorophosphonazo III method						
	Inorganic phosphorus: Enzyme method						
	Mg : Enzyme method						
Range of property	• Range of property values, Origin CRM, the expanded uncertainties of property						
values	values(k=2)						





Accreditation Certificate Appendix

(Page 6/8)

Accreditation No. RMP00020

Japanese Committee for Clinical Laboratory Standards

	343							
· The expanded	Iron (μg/dL): 100-200 NIST SRM37 1.7%							
uncertainties of	JCCRM 322-5 4.1%							
property values	Na (mmol/L) : 135—150 JCCRM 111-6 0.5%							
	K (mmol/L): 3.5-5.0 JCCRM 111-6 0.7%							
,	Cl (mmol/L): 95 -110 JCCRM 111-6 0.5%							
	Ca (mg/dL): 8.5-10.5 NIST SRM915b 2.0%							
	JCCRM 321-7 2.0%							
	Inorganic phosphorus (mg/dL): 5.0-10.0 NIST SRM200b 1.3%							
	JCCRM 324-4 2.7%							
	Mg (mg/dL) :2.0 – 5.0 NIST SRM929a 2.2%							
	JCCRM 321-7 2.6%							
	An expanded uncertainty represents Calibration and Measurement Capability (CMC)							
	at approximately 95 % level of Confidence, including homogeneity and stability of							
	the material							
· Applied Scope of	B Biological and clinical properties							
Accreditation Code	B2 Clinical chemistry							
of Field	B2.6 Carbohydrates							
Category								
Class (1)								
Class (2)								
Type of reference	Type of reference material: Non-certified reference material,							
Material	Unfit for metrological traceability							
Name of reference	Name of reference material: Multianalyte Conventional Reference Material:							
material	MacRM-001							
Test method	Test method for each property:							
	Glucose: HK method, GOD electrode method, GluK method, GluDH							
	method							
· Range of property	Range of property values, Origin CRM, the expanded uncertainties of property							
values	values(k=2)							
• The expanded	Glucose (mg/dL) : 100-300 NIST SRM917c 1.3%							
uncertainties of	JCCRM521-12 1.5%							



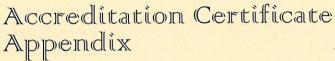


Accreditation Certificate (Page 7/8) Appendix Accreditation No. RMP00020

Japanese Committee for Clinical Laboratory Standards

property values	An expanded uncertainty represents Calibration and Measurement Capability (CMC) at approximately 95 % level of Confidence, including homogeneity and stability of the material							
· Applied Scope of	• Classification code : B2.7							
Accreditation Code	B Biological and clinical properties							
of Field	B2 Clinical chemistry							
Category	B2.7 Non-protein Nitrogens							
Class (1)								
Class (2)	b	J'						
Type of reference	Type of reference material : Non-certified reference material,							
Material	Unfit for metrological traceability							
Name of reference	Name of reference material: Multianalyte Conventional Reference Material:							
material	MacRM-001							
Test method	Test method for each property:							
	Uric acid: Uricase POD	method, Uricase	e • UV method					
	Urea nitrogen : Urease · GLDH method (Ammonia elimination method) ,							
	Urease · GLDH · ICDH method (Ammonia elimination							
	method) ,							
	Urease · LED method (Ammonia avoidance)							
	Creatine : Enzyme method							
	Total bilirubin : Vanadic acid oxidation method, Enzyme method,							
	Nitrous acid oxidation method							
Range of property	Range of property values, Origin CRM, the expanded uncertainties of property							
values	values(k=2)							
The expanded	Uric acid (mg/dL):	6.0 - 10.0	NIST SRM913b	1.4%				
uncertainties of			JCCRM521-12	1.8%				
property values	Uric acid (mg/dL):	20-50	NIST SRM912a	1.9%				
			JCCRM521-12	2.5%				
	Creatine (mg/dL):	2.0 - 5.0	NIST SRM914a	1.5%				
			JCCRM 521-12	4.1%				





(Page 8/8)

Accreditation No. RMP00020



Total bilirubin (mg/dL): 2.0-6.0 NIST SRM916 5.1%

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