



**REUNIÃO DA COMISSÃO TÉCNICA CT-04 LABORATÓRIOS DE ANÁLISES CLÍNICAS**

**Data:** 18-06-2015

**Início:** 13h00min

**Local:** Auditório do Rio Comprido.

**Término:** 17h00min

**Presentes:**

CGCRE/DICLA

- Lidiane M de Albuquerque
- Maria Cristina Pessoa
- Patricia Ferreira Leite

DIMAV

- Aurea Valadares Folgueras Flatschart
- Roberto B. Flatschart

DIMCI

- Jane Luiza Fernandes
- Wagner Wollinger

FLEURY

- Ismar Barbosa

FIOCRUZ

- Eliane Veiga da Costa
- Heloisa C. de A. Goés

HUPE/UERJ

- Nívia de Oliveira

PNCQ

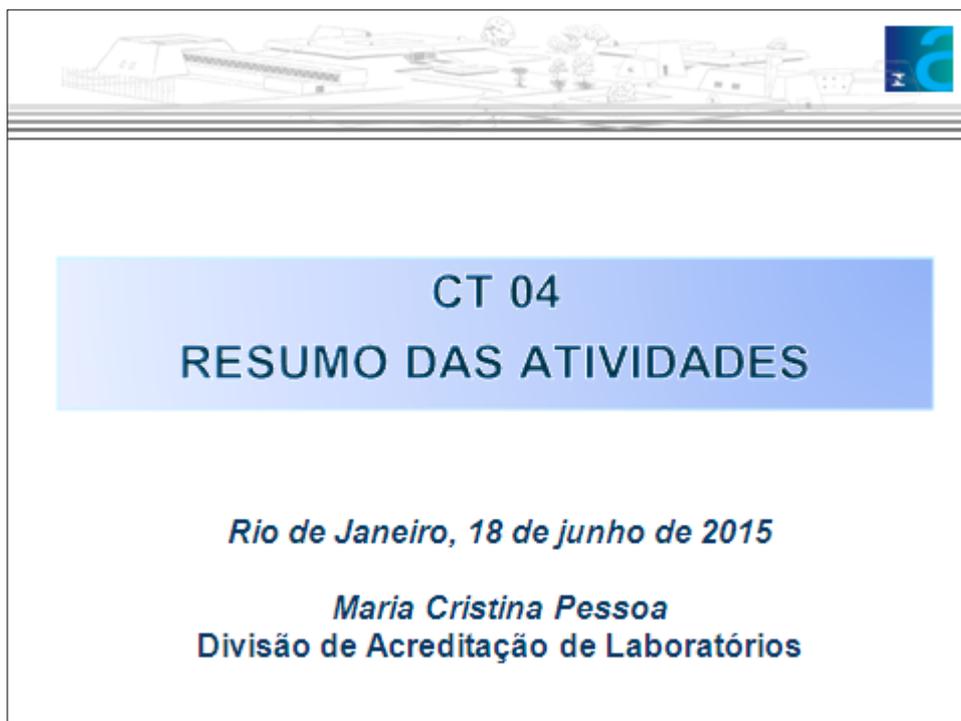
- Juno Damasceno Silva

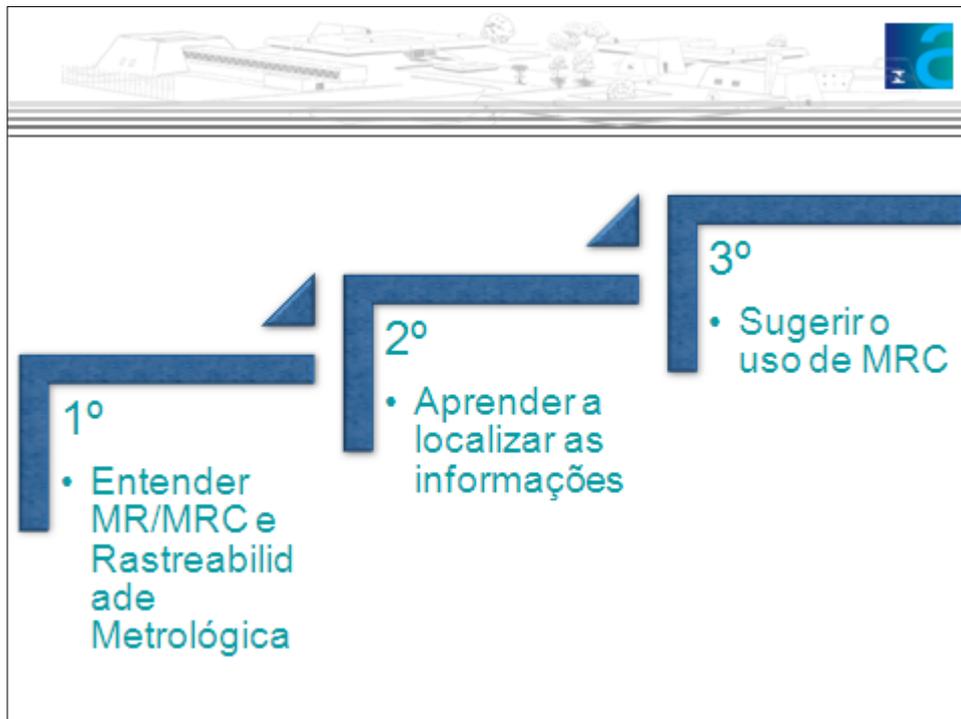
INDEPENDENTE

- Claudia da Costa Baldez

**Documento Distribuído: NA**

Na primeira parte da reunião foi feito um resumo das atividades realizadas até agora na CT04 (apresentação a seguir).





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**ISO Guide 32:1997**

Calibration in analytical chemistry and use of certified reference materials  
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Edition	Stage	TC	ICS	Date of withdrawal
1	95.99	ISO/REMCO	71.040.30	2015-02-05

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ABNT ISO GUIA 33:2002 - Utilização de materiais de referência certificados.

ISO Guide 33:2015  
Reference materials - Good practice in using reference materials



## Características de MR e MRC

**MR**

- material homogêneo e estável
- com propriedade(s) especificada(s)
- adequado para o uso em um processo de medição

**MRC**

- material homogêneo e estável
- com propriedade(s) especificada(s)
- adequado para o uso em um processo de medição
- caracterizado por um procedimento metrologicamente válido
- com a incerteza associada e declarada em certificado”.



É comum a utilização dos termos:

- “padrão”.
- “padrão de medição”.
- “padrão analítico”.
- “padrão de calibração” e
- “calibrador”

como sinônimos de MR

mas quando recebem estas denominações não são reconhecidos explicitamente como material de referência



**PRODUTORES DE MATERIAIS DE REFERÊNCIA**

**NA ÁREA DE ANÁLISES CLÍNICAS**



# CONTINUAÇÃO DA ATA DE REUNIÃO DA CGCRE

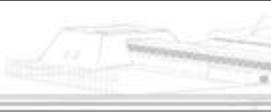


Produtores de Materiais de Referência		
Sigla	Nome	País
CENAM	Centro Nacional de Metrologia	México
INMETRO	National Institute of Metrology, Quality and Technology	Brazil
IRMM	Institute for Reference Materials and Measurements	European Union
LGC	LGC Limited	United Kingdom
NIBSC	National Institute for Biological Standards and Control	United Kingdom
NIM	National Institute of Metrology	China
NIST	National Institute of Standards and Technology	United States
NMSA	National Measurement Institute, Australia	Australia
NMIJ	National Metrology Institute of Japan	Japan
ReCCS	Reference Material Institute for Clinical Chemistry Standards	Japan
HSA	Health Sciences Authority	Singapore
NIES	National Institute for Environmental Studies, Center for Environmental	Japan
KRISS	Korea Research Institute of Standards and Science, Standards and Quality Management Team	Korea
Ra	RADIOMETER ANALYTICAL S.A.S.	France
CNRL	Groupe Hospitalier Est, Centre de Biologie Est, Centre National de Référence des Légionelles	France
IAEA	IAEA Analytical Quality Control Services	Austria
NIPH	National Institute of Public Health Department of Toxicological Analysis	Czech Republic
ATCC	American Type Culture Collection	United States

fontes: BPM - JCTLM <http://www.bipm.org/jctlm>; COMAR <http://www.comar.bipm.de/ATCC> <http://www.atcc.org>

18 instituições

ABRIL DE 2014



Análitos			
Acholeplasma laidlawii	coagulation factor V	iodine	phenylalanine
acid glycoprotein (AAG)	coagulation factor VII	iodoethane	phenolphthalein
ac. Phosp. prostático (PAP)	coagulation factor VIII	Koovite rhizophila	potassium
Adenosine Deaminase (ADA 1)	coagulation factor XI	lactate dehydro (LDH)	potassium
alanine	coagulation factor XII	L-alanine	primidone
alanine aminotransferase (ALT)	coagulation factor XIII	L-arginine	progesterone
albumin (ALB)	cobalt	L-aspartic acid	proline
alkaline phosphatase (ALP)	cocaine	lead (Pb)	prostate specific antigen
alpha-fetoprotein	codeine	legionella - DNA	protein C
alpha-tocopherol	complement 3c (C3c)	luciferin	protein S
amphetamine	complement 4 (C4)	L-glutamic acid	prothrombin fragment
Amylase	copper	L-isoleucine	Pseudoephedrine
androstenedione	cortisol	lithium	Pseudomonas aeruginosa
anti-c antibodies	C-peptide	L-leucine	Saccharomyces cerevisiae
anti-D antibodies	C-reactive protein (CRP)	L-lysine	Salmonella enterica
antimony	creatinine kinase (CK)	L-phenylalanine	selenium
antithrombin	creatinine	L-proline	serine
antithypan (AAT)	cystatin C	L-valine	sodium
apolipoprotein A I	cysteine	Lymphocyte B	sodium diclofenac
arginine	DHEA	Lymphocyte T	Staphylococcus aureus
arsenic, arsenic acid	digoxin	lysine	S. epidermidis
arsinocholine	dimethylarsinic acid	macroglobulin (AM)	T3 (3,3',5-triiodothyronine)
arsenous acid	DNA frag. SCR-ABL	magnesium	T4 - thyroxine
ascorbic acid	DNA quant	manganese	tacrolimus
aspartate transferase (AST)	Escherichia coli	MDA	talosilomone
aspartic acid	estradiol (E2 -beta)	MMA	thallium
Aspergillus brasiliensis	estradiol(18 -beta)	mercury	THC-9-COOH
Bacillus subtilis	ethanol	methamphetamine	theophylline
barium	ethosulfamide	methionine	thorium
benzoylserine	fibronogen	folic acid	threonine
beryllium	g-gutamyltransferase (GGT)	metronidazole	thromboclastin
beta-crytoprotein	genmia-tocopherol	prothrombin fragments	total glycerides
bilirubin	glucose	molybdenum	total nitrod
bovine serum albumin	glutamic acid	monomethylarsinic acid	total zearalenin
cadmium	glycated haemoglobin	morphine	trace elements (Pb, ...)
calcium	glycine	Mycoplasma arginii	transferrin (TRF)
Candida albicans	haemoglobinocyanide	Mycoplasma hominis	transferrin (TRF)
captopril	haemoglobin (HPT)	Mycoplasma hyorhina	triglyceride
carbamazepine	HbA1c	Mycoplasma orale	trimethylamine oxide
carbamazepine	heroin	Mycoplasma pneumoniae	vitamin
cesium	hippuric acids	Mycoplasma synoviae	vitamin
Chloramphenicol	lideline	Mycoplasma fermentans	xyloglobulin
chloride	HIV marcador indelucilar	Mycoplasma salivarium	uranium
cholesterol	HLA specific auto-antibodies	nicot	urea
cholesterol HDL	homocysteine	nitrate	uric acid
cholesterol LDL	human cardiac troponin I	norandrostereone (19)	valine
cholesterase	hydroxyvitamin D2 (25)	Pancreatic Lipase	valproic acid
chromium	hydroxyvitamin D3 (25)	perchlorate	vanadium
Clostridium sporogenes	immunoglobulin A (IgA)	pH	VMA (mandelic Acid)
coagulation factor II	immunoglobulin G (IgG)	phenacylidine	von Willebrand factor
coagulation factor IX	immunoglobulin M (IgM)	phenobarbital	zinc

Fonte: BPM - JCTLM <http://www.bipm.org/jctlm>; COMAR <http://www.comar.bipm.de/ATCC> <http://www.atcc.org>

204 ANALITO

ABRIL DE 2014







**VITROS**  
**INSTRUCTIONS FOR USE** **CHOL DT**  
VITROS Chemistry Products CHOL DT Slides

**Intended Use**  
For in vitro quantitative, random individual CHOL concentration in serum and plasma using VITROS CHOL DT and VITROS Chemistry Systems.

**Summary and Explanation of the Test**  
Cholesterol is present in tissues and in serum and plasma either as cholesterol or as cholesterol esters bound to proteins. Cholesterol is an essential structural component of cell membranes and the major form of energy storage and is the precursor of all steroid hormones, including sex and adrenal hormones, bile acids, and vitamin D.

**Principles of the Procedure**  
The VITROS CHOL DT slide is calibrated to perform using the VITROS CHOL DT slide and the VITROS Chemistry Products DT Calibrator (VITROS CHOL DT Calibrator).

**Test Type and Conditions**

Test Type	Method	Assay Format	Temperature	Measurement	Sample Size
CHOL DT	Colorimetric	96-well	37°C (98.6°F)	mmol/L	10 µL

**Reaction Sequence**

```

Sample + Reagent → Intermediate 1 + Intermediate 2 + Product
Intermediate 1 + H2O → Intermediate 2 + H2O
Intermediate 2 + H2O → Product + H2O
H2O + Reagent → Reagent + H2O

```

**CHOL DT**  
Calibrator

**INSTRUCTIONS FOR USE**  
Calibrator

**Calibration**  
Required Calibrators  
VITROS Chemistry Products DT Calibrator 48, 168, 1.1, and 1

**Calibrator Preparation, Handling, and Storage**  
Refer to the instructions for use for VITROS DT Calibrator 48.

**Calibration Procedure**  
Refer to the operator's manual for your VITROS CHOL DT Chemistry System.

**When to Calibrate**

- After the slide is number change.
- After initial system checks required for service or maintenance.
- After government regulatory audits.
- For audits on the USA, CLIA regulations require calibration or calibration verification of each slide every six months.
- The VITROS CHOL DT slide may also need to be calibrated.
- If quality control results are consistently outside acceptable range.
- After other analytical calibration has been performed.

**Calculations**  
Reference to the slide is required in 800 nm after the first calibration slide. Check a calibration has been performed for each slide. Individual concentration in unknown samples can be determined using the performance standard and individualized multi-point and the respective standard for each unknown. See slide.

**Validity of a Calibration**  
Reference to the slide is required in 800 nm after the first calibration slide. Check a calibration has been performed for each slide. Individual concentration in unknown samples can be determined using the performance standard and individualized multi-point and the respective standard for each unknown. See slide.

**Measuring (Reportable or Dynamic) Range**

Reporting Unit	Dynamic Range
mmol/L	0.050 - 10.000

For out-of-range samples, refer to "Special Studies".

**Freeability of the Calibration**  
When assigned to the VITROS Chemistry Products DT Calibrator 48 for calibration are available in the Calibrator 48F (Reportable or Dynamic) and Laboratory Reference Range (LRR) (Operator Reference Range 0.1). The LRR (Reportable or Dynamic) is available under 800F 0.1. Refer to the Operator Reference Range (LRR) for the VITROS DT Calibrator 48.

**Quality Control**  
Quality Control Material Selection  
VITROS DT Calibrator 48 is not recommended for use with the VITROS CHOL DT Chemistry System. Evaluate the performance of other commercial control materials for compatibility with this test before using the results control. See slide.

- Control materials other than VITROS DT Calibrator 48 may affect a reference when compared with other calibration control strips.
- Control lots of the human matrix.
- Control high concentrations of components, additives, or other non-analytical additives.
- Do not use control materials without user approval.

**Quality Control Procedure Recommendations**

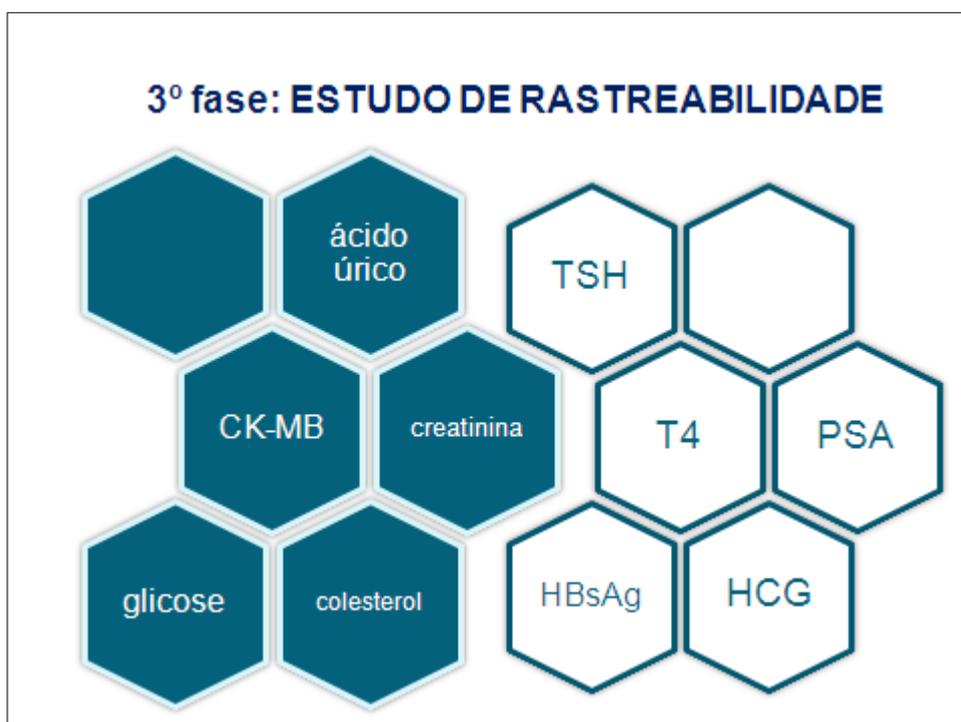
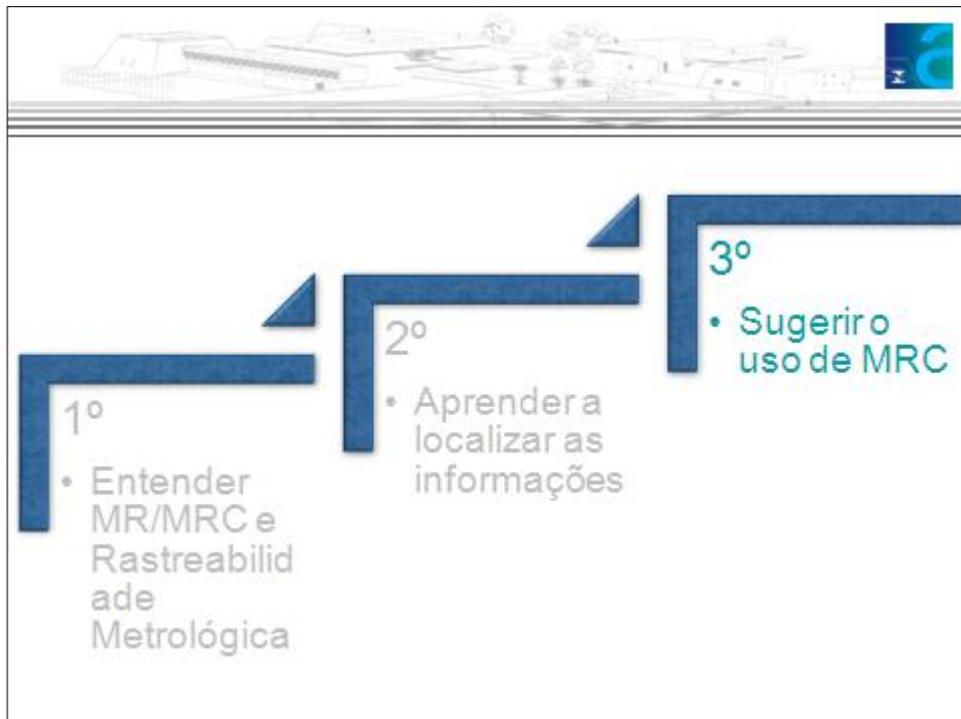
- Control material must be stored in the original unopened vial.
- Control quality control materials in the same manner as patient samples, before or during patient sample processing.

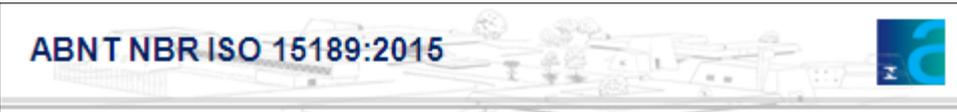


**SORO CONTROLO DE BIOQUÍMICA**

NIVEL I      LOTE 075

COMPONENTE	METODO	VALOR	LIMITES	UNIDADE	TRAÇABILIDADE
ACE	FAPOG	30	23 - 38	U/L	BMC
ACE		0,50	0,38 - 0,63	µkat/L	BMC
ÁCIDO FOSFATASE	Nafil tartrato/pentanolol	10,8	5,4 - 16,2	U/L	BMC
FOSFATASE ÁCIDA		0,179	0,090 - 0,269	µkat/L	BMC
ALBUMINA	Verde de bromocresol	25	21 - 30	g/L	EFM-DM76FCC (IFM)
ALBUMINA					
ALKALINE PHOSPHATASE	Tampão 2-amino-2-metil-1-propanol	111	91 - 131	U/L	C-RSE/FCC
FOSFATASE ALCALINA		1,84	1,51 - 2,17	µkat/L	BMC
	Tampão dietanolamina	174	143 - 205	U/L	BMC
		2,89	2,37 - 3,41	µkat/L	BMC
ALT/GPT	FCC sem piridoxal fosfato	36,7	30,1 - 43,3	U/L	BMC
ALT/GPT		0,61	0,50 - 0,72	µkat/L	BMC
	FCC com piridoxal fosfato	41	34 - 48	U/L	C-RSE/FCC
		0,68	0,56 - 0,80	µkat/L	EFM-AD454FCC (IFM)
α-AMYLASE	FCC	89	73 - 105	U/L	C-RSE/FCC
AMILASE		1,49	1,22 - 1,76	µkat/L	IFM4FCC-456 (IFM)
	Substrato directo	116	95 - 137	U/L	BMC
		1,9	1,6 - 2,2	µkat/L	BMC
AST/GOT	FCC sem piridoxal fosfato	42,0	34,4 - 49,6	U/L	BMC
AST/GOT		0,70	0,57 - 0,83	µkat/L	BMC
	FCC com piridoxal fosfato	56	46 - 66	U/L	C-RSE/FCC
		0,93	0,76 - 1,10	µkat/L	EFM-AD457FCC (IFM)
BILIRUBIN, DIRECT	Sulfanilico dicotato	0,62	0,43 - 0,81	mg/dL	BMC
BILIRUBINA (DIRECTA)		10,6	7,4 - 13,8	µmol/L	BMC
BILIRUBIN, TOTAL	Sulfanilico dicotato	2,36	1,94 - 2,78	mg/dL	SFM 914 (NIST)
BILIRUBINA (TOTAL)		40,4	31,4 - 47,7	µmol/L	SFM 914 (NIST)
CÁLCIO	MIB / o-cresolphthalen	9,8	8,4 - 10,8	mg/dL	SFM 956 (NIST)
CÁLCIO		2,41	2,12 - 2,70	mmol/L	SFM 956 (NIST)
CÁLCIO	Asenato III	8,4	7,4 - 9,4	mg/dL	SFM 956 (NIST)
CÁLCIO		2,11	1,86 - 2,36	mmol/L	SFM 956 (NIST)
CHLORIDE	Electrodo selectivo	82	74 - 90	mmol/L	SFM 956 (NIST)
CLORETO					



**ABNT NBR ISO 15189:2015**

**NOTA** A documentação de rastreabilidade de calibração em relação a um material de referência de ordem mais alta ou procedimento de referência pode **ser fornecida por um fabricante do sistema utilizado no exame,.....**

*Quando isso não for possível ou pertinente, outras formas de proporcionar confiança nos resultados devem ser aplicadas, incluindo, mas não limitado ao seguinte:*

— **uso de materiais de referência certificados;**

.....



**OBRIGADA**

***mcpessoa@inmetro.gov.br***



Na segunda parte da reunião o grupo foi dividido em pares para identificar nas bulas dos kits que os participantes trouxeram, as informações sobre rastreabilidade metrológica. Na sequência foram apresentadas, oralmente, as observações dos grupos. E mais uma vez a constatação foi que existem bulas com informações incompletas e outras que não trazem informações sobre rastreabilidade metrológica.

Após este trabalho em grupo, foi discutida a necessidade da rastreabilidade metrológica na confiabilidade dos resultados obtidos. Quando foi consenso que alguma medida educativa deveria ser realizada.

Patrícia e Cristina comentaram que informações sobre rastreabilidade metrológica podem existir na bula original, mas que algumas vezes não são integralmente traduzidas. E ressaltaram que informações sobre rastreabilidade metrológica é requisito para registro de produtos na ANVISA, conforme RDC 206/2006.

Quanto ao conhecimento do tema, Cristina considerou que precisa ser difundido entre a assessoria das empresas diagnósticas. E que os laboratórios precisam entender para cobrar estas informações nos kits adquiridos.

A sugestão do grupo, que será apresentada à Dicla é de escrever um documento orientativo para maior entendimento dos laboratórios e dos avaliadores sobre o tema rastreabilidade metrológica.

**DATA DA PRÓXIMA REUNIÃO:** Não foi definida. Será agendada por e-mail em data oportuna.