Для лабораторий, использующих
Acid Phosphatase Gen.2
на анализаторе **cobas c** 311,
на модулях **cobas c** 501, **c** 502,
на модуле **cobas c** 702,

Дата: 19.06.2024 г. Москва
Исх.: 0225/1906/2024
Ref.: QN-RDS-CoreLab-2024-039

Уведомление по качеству
Касательно нового интерферирующего вещества Метилдопа, влияющего на определение уровня непростатической кислотной фосфатазы (NPP2) в тесте Acid Phosphatase Gen.2 (ACP2)

Название продукта	**GMMI / Кат. №**	**Идентификатор продукта (Номер лота или серийный номер)**	**Номер РУ, Дата РУ**	**Производитель**
Реагенты, стандарты, калибраторы, контроли и расходные материалы для биохимических анализаторов Hitachi 902, 902 ISE, 912, 912 ISE, 917 ISE, Cobas c 311, Cobas c 111, Cobas c 111 ISE, Cobas Integra 400 Plus/ 800 и платформ модульных MODULAR ANALYTICS, cobas 6000 Фосфотаза кислая (СИС1) (ACP (Acid Phosphotase) (SYS1))	04375351190		ФСЗ 2010/07525 от 24.03.2021	Sandhofer Strasse 116, D-68305 Mannheim, Germany
Реагенты для анализаторов биохимических Hitachi 902, 902 ISE, 912, 912 ISE, 917 ISE, Cobas c 311, Cobas c 111, Cobas c 111 ISE, Cobas Integra 400 plus, Cobas Integra 800 и платформ модульных MODULAR ANALYTICS, cobas 6000, cobas 8000 Кислая/простатическая фосфатаза, генерация 2, 4 x 100 тестов ACP2/100 тестов NPP2 или 4 x 200 тестов ACP2 (ACP2/Acid Phosphatase Gen2 4 x 100 tests ACP2/100 tests NPP2 or 4 x 200 tests ACP2)	05975905190		ФСЗ 2012/13068 от 19.10.2012	Sandhofer Strasse 116, D-68305, Mannheim, Germany
Инструмент/Система	Анализатор **cobas c** 311 Модуль **cobas c** 501 Модуль **cobas c** 502 Модуль **cobas c** 702			

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Уважаемый пользователь,

Сообщаем вам о том, что была выявлена интерференция препаратом Метилдопа с анализом Non-Prostatic Acid Phosphatase (NPP2: ACN (8)022 на **cobas c** 311/501/502/702). Эти данные основаны на недавних результатах мастер-проекта **cobas c** 503, о котором было объявлено в MN-RDS-CoreLab-2022-183.

Описание ситуации

В ходе мастер-проекта **cobas c** 503 повторно была проведена оценка характеристик анализа NPP2 на предмет лекарственной интерференции. Новое заявление об интерференции препаратом Метилдопа (7,5 мг/л) не было подтверждено для NPP2, хотя наблюдались все остальные показатели интерференции. Описанная ситуация не влияет на применение теста Acid Phosphatase (ACP2) и инструменты COBAS INTEGRA 400 plus или **cobas c** 111.

Для теста NPP2 в соответствующие Инструкции по использованию будут внесены следующие обновления: препарат Метилдопа добавлен в качестве интерферента в Инструкции по использованию реагента на **cobas c** для ACP2.

Подробная информация в разделе «Ограничения – Интерференция»:
В Инструкции по использованию реагента на **cobas c** было добавлено следующее обновление: «Лекарственные препараты: интерференция не обнаруживается при использовании стандартных панелей лекарственных средств в терапевтических концентрациях.
Исключение: Метилдопа, Цефокситин и Доксициклин вызывают искусственно завышенные результаты непростатической кислой фосфатазы.17,18».

Для COBAS INTEGRA 400 plus при использовании обновленных спецификаций интерференция не обнаруживалась.
Следовательно, никаких изменений в разделе COBAS INTEGRA 400 plus комбинированной Инструкции по использованию **cobas c** 311/501/502/COBAS INTEGRA 400 plus не требуется.

Анализ ACP2 недоступен для **cobas c** 111.
Настройки Протокола методики Acid Phosphatase Gen.2 остаются неизменными.

Причина возникновения

Описанное изменение основано на недавних выводах, полученных в ходе мастер-проекта **cobas c** 503, о котором было объявлено в MNRDS-CoreLab-2022-183:

Поскольку мы собираем дополнительные данные о **cobas c** 503, нам необходимо соблюдать новейшие нормативные требования (например, IVDR), а некоторые рабочие процедуры изменились из-за обновленных версий основных международных рекомендаций (например CLSI). Новые внешние требования могут привести к другим настройкам Протокола методики и различиям в результатах, полученных на **cobas c** 503 по сравнению со старыми данными **cobas c** 501.

Основная причина возникновения интерференции препарата Метилдопа с NPP2:

Из-за ошибки, обусловленной человеческим фактором, было пропущено обновление критерия работоспособности рекомендаций CLSI по тестированию лекарственных препаратов: была установлена слишком низкая терапевтическая концентрация Метилдопы (4 мг/л вместо 7,5 мг/л).

Оценка риска

Частота возникновения

Ни одна рекламация не была передана в Группу расследования рекламаций (CIR).

Вероятность обнаружения

Проблема может быть обнаружена только в том случае, если искусственно завышенный результат не соответствует ожидаемым значениям.

Серьезность последствий

Вероятность причинения вреда в сочетании с серьезностью проблемы и общим риском определена как «приемлемый остаточный риск». Таким образом, Оценка степени опасности для здоровья не требуется. Для получения дополнительной информации обратитесь к предстоящему выпуску SN-RDS-CoreLab-2024-093.

Ложно завышенный результат ACP может спровоцировать дальнейшее тестирование. Однако никакого вреда для пациента нет.

Важная информация

Обновленные Инструкции по использованию реагента приложены к настоящему Уведомлению по качеству.
Обновленные электронная документация будет содержать ссылку на настоящее Уведомление по качеству.

Срок публикации для разных анализаторов:

Новая Инструкция по использованию реагента приложена к настоящему Уведомлению по качеству.

Версия Инструкции по использованию реагента	Анализатор	Срок публикации
8.0	**cobas c** 311 **cobas c** 501/502	Июль 2024 г.
6.0	**cobas c 7**02	

Распространение настоящего уведомления по качеству на местах

Настоящее Уведомление по качеству предназначено для всех заинтересованных лиц в Вашей организации или других организациях, которые получали данную продукцию.

Пожалуйста, перешлите данное уведомление другим организациям/лицам, которых она может касаться.

Приносим свои извинения за причиненные неудобства, которые могут быть связаны с данной ситуацией, и надеемся на Ваше понимание и поддержку.

Контакты

В случае возникновения вопросов обратитесь, пожалуйста, в службу поддержки Roche:
Бесплатная линия: 8 800 100-68-96
Время работы: понедельник – пятница с 08:00 до 18:00 по Московскому времени
e-mail: russia.rcsc@roche.com.

С уважением,

Менеджер по продукции
Тел: +7 (916) 922-64-09
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Иван Каргов
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Maria Kosyakova Digitally signed by Maria Kosyakova Date: 2024.07.01 11:23:03 +03'00'

ACP2

Acid Phosphatase Gen.2

cobas®

Order information

REF		CONTENT		Analyzer(s) on which **cobas c** pack(s) can be used
04375351190	04375351500	Acid Phosphatase Gen.2 4 x 100 tests	System-ID 07 6930 4	**cobas c** 311, **cobas c** 501/502, COBAS INTEGRA 400 plus

Materials required (but not provided):

		cobas c 311, **cobas c** 501/502	COBAS INTEGRA 400 plus
10759350190	Calibrator f.a.s. (12 x 3 mL)	Code 401	System-ID 07 3718 6
12149435122	Precinorm U plus (10 x 3 mL)	Code 300	System-ID 07 7999 7
12149443122	Precipath U plus (10 x 3 mL)	Code 301	System-ID 07 8000 6
05117003190	PreciControl ClinChem Multi 1 (20 x 5 mL)	Code 391	System-ID 07 7469 3
05947626190	PreciControl ClinChem Multi 1 (4 x 5 mL)	Code 391	System-ID 07 7469 3
05117216190	PreciControl ClinChem Multi 2 (20 x 5 mL)	Code 392	System-ID 07 7470 7
05947774190	PreciControl ClinChem Multi 2 (4 x 5 mL)	Code 392	System-ID 07 7470 7
04593138190	**cobas c** pack MULTI		
Open/Close tool	on request		

English

Intended use

In vitro test for the quantitative determination of acid phosphatase in human serum on **cobas c** and COBAS INTEGRA systems.

Summary

Measurement of the activity of acid phosphatase (ACP) in serum with this assay, is used to aid in the diagnosis and management of prostate cancer.

Acid phosphatases (ACPs) are a group of enzymes with optimal activity at a pH below 7.0 and can be differentiated according to their immunological properties, tissue distribution and subcellular localisation. To date, at least 5 different ACPs have been reported in human tissues. Lysosomal acid phosphatase is stored in the lysosomes of all body cells, while the highest concentrations of extralysosomal ACP activity occur in the prostate, bone (osteoclasts), spleen, platelets and erythrocytes. ACP activity in blood serum is usually distinguished into tartrate-resistant and tartrate-refractory.[1,2,3] A specific form of ACP sensitive to tartrate inhibition is the secretory prostatic acid phosphatase (PAP), which is normally secreted by prostate tissue. In prostate cancer, circulating levels of PAP are increased.[3,4] PAP has therefore extensively been used as a serum marker for prostate cancer until the introduction of the current gold standard prostate-specific antigen (PSA).[5] Serum PAP levels are particularly increased in individuals with metastatic prostate cancer and correlate with tumor stage. It has been suggested that PAP has clinical application in patient management, in predicting disease recurrence or monitoring the effects of treatment.[4,6] However, PSA is indicated as the preferred test for screening, monitoring and predicting prostate cancer outcomes. Presence or absence of malignant disease can only be confirmed with a prostate biopsy. A multi-parametric magnetic resonance imaging (mpMRI) is recommended before prostate biopsy to facilitate the targeting of suspected lesions.[7,8,9,10]

Activity of total acid phosphatase increases in pathologic conditions of increased osteolysis and bone remodeling, in case of bone metastasis and other types of malignancies, in Gaucher's and Niemann-Pick diseases. Prostatic and total acid phosphatase levels increase after prostate surgery, biopsy, manipulation or catheterization, in the presence of benign prostate hypertrophy, prostatitis and prostate infarction.[1,2,11,12,13] Increased PAP levels should not be considered an absolut test for malignancy and PAP results should always be interpreted in combination with the patient's medical history and further diagnostic evaluations.

With this assay, PAP is detected with an indirect method by subtraction between ACP and non-prostatic acid phosphatase (NPP). The assay used here is a modification of the method described by Hillmann. Addition of 1,5-pentanediol increases the activity of prostatic acid phosphatase.[14]

Test principle[14]

Colorimetric test
The 1-naphthol released during the enzymatic hydrolysis of 1-naphthyl phosphate is converted to an azo dye by coupling with diazotized fast red TR*. The tartrate is used as a specific inhibitor for prostatic acid phosphatase.

* Fast red TR = 2-amino-5-chlorotoluene

$$\text{1-naphthyl phosphate} + H_2O \xrightarrow[\text{phosphatase}]{\text{acid}} \text{1-naphthol} + \text{phosphate}$$

$$\text{1-naphthol} + \text{fast red TR*} \longrightarrow \text{azo dye}$$

Precautions and warnings

For in vitro diagnostic use for health care professionals. Exercise the normal precautions required for handling all laboratory reagents.

Infectious or microbial waste:
Warning: handle waste as potentially biohazardous material. Dispose of waste according to accepted laboratory instructions and procedures.

Environmental hazards:
Apply all relevant local disposal regulations to determine the safe disposal.

Safety data sheet available for professional user on request.

This kit contains components classified as follows in accordance with the Regulation (EC) No. 1272/2008:

Warning

H373	May cause damage to organs through prolonged or repeated exposure.

Prevention:

P260	Do not breathe mist or vapours.

Response:

P314	Get medical advice/attention if you feel unwell.

ACP2

Acid Phosphatase Gen.2

Disposal:

P501 Dispose of contents/container to an approved waste disposal plant.

Product safety labeling follows EU GHS guidance.

Contact phone: all countries: +49-621-7590

Reagent preparation and cobas c pack MULTI assembly

Reagent handling

Total acid phosphatase

R1 Connect one bottle **1** to one bottle **1a** using the enclosed adapter and dissolve the substrate/chromogen mixture completely in the buffer.

Non-prostatic acid phosphatase

R1 Connect one bottle **1** to one bottle **1a** using the enclosed adapter and dissolve the substrate/chromogen mixture completely in the buffer. Add a reagent tablet from bottle **2** and dissolve by gently swirling.

Labeling the **cobas c** *pack MULTI*

Turn the barcode labeled side of a new **cobas c** pack MULTI toward you. Affix the supplied ACP2 barcode label directly over the existing barcode label.

Filling the **cobas c** *pack MULTI*

1. Turn the **cobas c** pack MULTI toward you as shown above.
2. Position A of the **cobas c** pack is now in the center, position B on the left side, position C on the right side of the **cobas c** pack.
3. Unscrew the screw cap of the bottle in position A in the middle of the **cobas c** pack MULTI using the Open/Close tool.
4. Pour the content of bottle 1 Total acid phosphatase (17 mL) into the opened bottle of the **cobas c** pack (position A).
5. Close the bottle tightly using the Open/Close tool.
6. Unscrew the screw cap of the bottle in position B on the left side of the **cobas c** pack MULTI using the Open/Close tool.
7. Pour the content of bottle 1 Non-prostatic acid phosphatase (17 mL) into the opened bottle of the **cobas c** pack (position B).

Note for COBAS INTEGRA

If the **cobas c** pack is not used for the measurement of non-prostatic acid phosphatase (NACP2), pipette 17 mL NaCl 0.9 % into the opened bottle (position B). The **cobas c** pack will be rejected by the analyzer if the bottle (position B) is left empty.

8. Close the bottle tightly using the Open/Close tool.

9. Leave position C empty.

The ACP2 **cobas c** pack is now ready for use.

Note

Use only the **cobas c** *pack MULTI. Always use a new* **cobas c** *pack MULTI when preparing fresh reagent. Never reuse accessories designed for single use, as this may result in reagent contamination and could affect test results. If the* **cobas c** *pack MULTI bottles are not filled correctly, this may result in faulty reagent pipetting and could cause erroneous results.*

Specimen collection and preparation

For specimen collection and preparation only use suitable tubes or collection containers.

Only the specimens listed below were tested and found acceptable.
Serum.

The sample types listed were tested with a selection of sample collection tubes that were commercially available at the time of testing, i.e. not all available tubes of all manufacturers were tested. Sample collection systems from various manufacturers may contain differing materials which could affect the test results in some cases. When processing samples in primary tubes (sample collection systems), follow the instructions of the tube manufacturer.

Separate the serum from the clot or cells promptly.

Perform determinations on the samples immediately. Samples which cannot be examined immediately should be stabilized as follows: Add 1 drop (30 µL) of solution from bottle **3** to 1.0 mL of serum and mix.

Centrifuge samples containing precipitates before performing the assay.

See the limitations and interferences section for details about possible sample interferences.

Stability:[15]

8 days at 15-25 °C

8 days at 2-8 °C

4 months at -20 °C (± 5 °C)

Freeze only once.

Materials provided

See "Reagents – working solutions" section for reagents.

Materials required (but not provided)

See "Order information" section

General laboratory equipment

Assay

For optimum performance of the assay follow the directions given in this document for the analyzer concerned. Refer to the appropriate operator's manual for analyzer-specific assay instructions.

The performance of applications not validated by Roche is not warranted and must be defined by the user.

Calculation

The systems automatically calculate the analyte activity of each sample.

Conversion factor: U/L x 0.0167 = µkat/L

A) Total acid phosphatase: See instrument printout.

B) Prostatic acid phosphatase:

$\text{Activity}_{\text{Prostatic acid phosphatase}} = \text{Activity}_{\text{Total acid phosphatase}} - \text{Activity}_{\text{Non-prostatic acid phosphatase}}$

When measuring total acid phosphatase (ACP2) on 1 channel and non-prostatic acid phosphatase (NPP2) on another channel, the prostatic acid phosphatase can be determined directly. The instrument-specific program prints out the difference between the 2 determinations as prostatic acid phosphatase.

Expected values

Total acid phosphatase (37 °C)[16]

Men < 6.6 U/L (< 0.110 µkat/L)
Women < 6.5 U/L (< 0.108 µkat/L)

Prostatic acid phosphatase (37 °C)[16]

Men < 3.5 U/L (< 0.058 µkat/L)

Each laboratory should investigate the transferability of the expected values to its own patient population and if necessary determine its own reference ranges.

cobas c systems

System information

For **cobas c** 311/501 analyzers:
ACP2: ACN 021 (Total acid phosphatase)

ACP2

Acid Phosphatase Gen.2

NPP2: ACN 022 (Non-prostatic acid phosphatase)
For **cobas c** 502 analyzer:
ACP2: ACN 8021 (Total acid phosphatase)
NPP2: ACN 8022 (Non-prostatic acid phosphatase)

Reagents - working solutions

R1	*Bottle R1:*
	Citrate buffer: 150 mmol/L, pH 4.8; 1,5-pentanediol: 220 mmol/L; detergent: 3.3 mL/L
	Bottle R1a:
	1-Naphthyl phosphate: 12.1 mmol/L; fast red TR salt: 1.2 mmol/L
	Bottle R2:
	Sodium tartrate: 100 mmol/L (additionally for non-prostatic acid phosphatase determination)
CH_3COOH	*Bottle 3:*
	Acetic acid: 0.8 mol/L (sample stabilizer)

Storage and stability

Shelf life at 2-8 °C:	See expiration date on **cobas c** pack label.
On-board in use and refrigerated on the analyzer:	5 days

Application for serum

Total acid phosphatase and Non-prostatic acid phosphatase

cobas c 311 **test definition**

Assay type	2 Point Rate		
Reaction time / Assay points	10 / 28-57		
Wavelength (sub/main)	700/415 nm		
Reaction direction	Increase		
Units	U/L (µkat/L)		
Reagent pipetting		Diluent (H_2O)	
R1	120 µL	–	
Sample volumes	*Sample*	*Sample dilution*	
		Sample	*Diluent (NaCl)*
Normal	10 µL	–	–
Decreased	3.3 µL	–	–
Increased	10 µL	–	–

Total acid phosphatase and Non-prostatic acid phosphatase

cobas c 501 **test definition**

Assay type	2 Point Rate		
Reaction time / Assay points	10 / 42-70		
Wavelength (sub/main)	700/415 nm		
Reaction direction	Increase		
Units	U/L (µkat/L)		
Reagent pipetting		Diluent (H_2O)	
R1	120 µL	–	
Sample volumes	*Sample*	*Sample dilution*	
		Sample	*Diluent (NaCl)*
Normal	10 µL	–	–
Decreased	3.3 µL	–	–
Increased	10 µL	–	–

Total acid phosphatase and Non-prostatic acid phosphatase

cobas c 502 **test definition**

Assay type	2 Point Rate		
Reaction time / Assay points	10 / 42-70		
Wavelength (sub/main)	700/415 nm		
Reaction direction	Increase		
Units	U/L (µkat/L)		
Reagent pipetting		Diluent (H_2O)	
R1	120 µL	–	
Sample volumes	*Sample*	*Sample dilution*	
		Sample	*Diluent (NaCl)*
Normal	10 µL	–	–
Decreased	3.3 µL	–	–
Increased	20 µL	–	–

Calibration

Total acid phosphatase:

Calibrators	S1: H_2O
	S2: C.f.a.s. Use the assigned ACP2 value.

Non-prostatic acid phosphatase:

Calibrators	S1: H_2O
	S2: C.f.a.s. Use the assigned NPP2 value.
Calibration mode	Linear
Calibration frequency	2-point calibration - after reagent lot change - as required following quality control procedures

Traceability: This method has been standardized against the Roche system reagent using calibrated pipettes together with a manual photometer providing absolute values and the substrate-specific absorptivity, ε.

Quality control

For quality control, use control materials as listed in the "Order information" section.

In addition, other suitable control material can be used.

The control intervals and limits should be adapted to each laboratory's individual requirements. Values obtained should fall within the defined limits. Each laboratory should establish corrective measures to be taken if values fall outside the defined limits.

Follow the applicable government regulations and local guidelines for quality control.

Limitations - interference

Criterion: Recovery within ± 10 % of initial value at a total acid phosphatase activity of 7 U/L (0.12 µkat/L) or at a non-prostatic acid phosphatase activity of 4 U/L (0.07 µkat/L).

Icterus:[17] No significant interference up to an I index of 1 for conjugated and unconjugated bilirubin (approximate conjugated and unconjugated bilirubin concentration: 17 µmol/L or 1 mg/dL).

Hemolysis:[17] No significant interference up to an H index of 200 (approximate hemoglobin concentration: 124 µmol/L or 200 mg/dL).

ACP2

Acid Phosphatase Gen.2

Lipemia (Intralipid):[17] No significant interference up to an L index of 200. There is poor correlation between the L index (corresponds to turbidity) and triglycerides concentration.

Drugs: No interference was found at therapeutic concentrations using common drug panels.[18,19]

Exception: Methyldopa, cefoxitine and doxycycline cause artificially high non-prostatic acid phosphatase results.

In very rare cases, gammopathy, in particular type IgM (Waldenström's macroglobulinemia), may cause unreliable results.[20]

The addition of stabilizer to the sample interferes with the determination of other parameters.

For diagnostic purposes, the results should always be assessed in conjunction with the patient's medical history, clinical examination and other findings.

ACTION REQUIRED

Special Wash Programming: The use of special wash steps is mandatory when certain test combinations are run together on **cobas c** systems. The latest version of the carry-over evasion list can be found with the NaOHD-SMS-SmpCln1+2-SCCS Method Sheets. For further instructions refer to the operator's manual. **cobas c** 502 analyzer: All special wash programming necessary for avoiding carry-over is available via the **cobas** link, manual input is required in certain cases.

Where required, special wash/carry-over evasion programming must be implemented prior to reporting results with this test.

Limits and ranges

Measuring range

Total acid phosphatase and non-prostatic acid phosphatase

0.5-200 U/L (0.01-3.34 µkat/L)

Determine samples having higher activities via the rerun function. Dilution of samples via the rerun function is a 1:3 dilution. Results from samples diluted using the rerun function are automatically multiplied by a factor of 3.

Lower limits of measurement

Lower detection limit of the test

0.5 U/L (0.01 µkat/L)

The lower detection limit represents the lowest measurable analyte level that can be distinguished from zero. It is calculated as the value lying 3 standard deviations above that of the lowest standard (standard 1 + 3 SD, repeatability, n = 21).

Specific performance data

Representative performance data on the analyzers are given below. Results obtained in individual laboratories may differ.

Precision

Precision was determined using human samples and controls in an internal protocol with repeatability (n = 21) and intermediate precision (3 aliquots per run, 1 run per day, 21 days). The following results were obtained on the **cobas c** 501 analyzer:

Total acid phosphatase:

Repeatability	*Mean*	*SD*	*CV*
	U/L (µkat/L)	*U/L (µkat/L)*	*%*
Precinorm U	27.6 (0.461)	0.1 (0.002)	0.5
Precipath U	53.1 (0.887)	0.1 (0.002)	0.2
Human serum 1	6.20 (0.104)	0.05 (0.001)	0.7
Human serum 2	124 (2.07)	0.4 (0.01)	0.3
Intermediate precision	*Mean*	*SD*	*CV*
	U/L (µkat/L)	*U/L (µkat/L)*	*%*
Precinorm U	28.3 (0.473)	0.2 (0.003)	0.7
Precipath U	53.4 (0.892)	0.5 (0.008)	0.9
Human serum 3	4.77 (0.080)	0.11 (0.002)	2.4
Human serum 4	28.9 (0.483)	0.1 (0.002)	0.5

Non-prostatic acid phosphatase

Repeatability	*Mean*	*SD*	*CV*
	U/L (µkat/L)	*U/L (µkat/L)*	*%*
Precinorm U	13.1 (0.219)	0.1 (0.002)	0.7
Precipath U	35.2 (0.588)	0.1 (0.002)	0.4
Human serum 1	3.18 (0.053)	0.04 (0.007)	1.3
Human serum 2	13.7 (0.229)	0.1 (0.002)	0.5
Intermediate precision	*Mean*	*SD*	*CV*
	U/L (µkat/L)	*U/L (µkat/L)*	*%*
Precinorm U	13.4 (0.224)	0.1 (0.002)	1.0
Precipath U	35.1 (0.586)	0.4 (0.007)	1.1
Human serum 3	3.00 (0.050)	0.1 (0.002)	4.6
Human serum 4	18.5 (0.309)	0.2 (0.003)	0.8

The data obtained on **cobas c** 501 analyzer(s) are representative for **cobas c** 311 analyzer(s).

Method comparison

Total acid phosphatase and non-prostatic acid phosphatase

Acid phosphatase values for human serum samples obtained on a **cobas c** 501 analyzer (y) were compared with those determined using the corresponding reagent on a Roche/Hitachi 917 analyzer (x).

Total acid phosphatase:

Sample size (n) = 66

Passing/Bablok[21]	Linear regression
y = 0.999x + 0.045 U/L	y = 0.977x + 0.766 U/L
τ = 0.994	r = 1.000

The sample activities were between 4.38 and 190 U/L (0.073 and 3.17 µkat/L).

Non-prostatic acid phosphatase:

Sample size (n) = 72

Passing/Bablok[21]	Linear regression
y = 0.971x - 0.010 U/L	y = 0.957x + 0.292 U/L
τ = 0.980	r = 0.999

The sample activities were between 2.32 and 161 U/L (0.039 and 2.69 µkat/L).

The data obtained on **cobas c** 501 analyzer(s) are representative for **cobas c** 311 analyzer(s).

COBAS INTEGRA systems

System information

Test ACP2 (Total acid phosphatase)
Test ID 0-268 on COBAS INTEGRA 400 plus systems
Test NACP2 (Non-prostatic acid phosphatase)
Test ID 0-269 on COBAS INTEGRA 400 plus systems
Profile ACP2P
Test ID 0-270 on COBAS INTEGRA 400 plus systems
Ratio ACP2R
Test ID 0-271 on COBAS INTEGRA 400 plus systems

ACP2

Acid Phosphatase Gen.2

cobas®

Reagents - working solutions

R1	Bottle R1: Citrate buffer: 150 mmol/L, pH 4.8; 1,5-pentanediol: 220 mmol/L; detergent: 3.3 mL/L Bottle R1a: 1-Naphthyl phosphate: 12.1 mmol/L; fast red TR salt: 1.2 mmol/L Bottle R1b: Sodium tartrate: 100 mmol/L (additionally for non-prostatic acid phosphatase determination)
CH_3COOH	Bottle 2: Acetic acid: 0.8 mol/L (sample stabilizer)

Storage and stability

Shelf life at 2-8 °C	See expiration date on **cobas c** pack label
On-board in use at 10-15 °C	5 days

Application for serum and plasma

Measuring mode	Absorbance
Abs. calculation mode	Kinetic
Reaction mode *ACP2*	R1-S
Reaction mode *NACP2*	R2-S
Reaction direction	Increase
Wavelength A/B	409/659 nm
Calc. first/last	57/66
Unit	U/L

Pipetting parameters ACP2

		Diluent (H_2O)
R1	120 µL	
Sample	10 µL	10 µL
Total volume	140 µL	

Pipetting parameters NACP2

		Diluent (H_2O)
R2	120 µL	
Sample	10 µL	10 µL
Total volume	140 µL	

Ratio definition for prostatic acid phosphatase

Abbreviated ratio name	
COBAS INTEGRA 400 plus system	ACP2R (0-271)
Equation	ACP2 - NACP2
Unit	U/L

Use the predefined profile (ACP2P, 0-270 on COBAS INTEGRA 400 plus systems) for simultaneous order entry of total (ACP2) and nonprostatic (NACP2) acid phosphatase tests from the same sample. The result for prostatic acid phosphatase will automatically be calculated after result output of both tests.

Calibration

Calibrator	Calibrator f.a.s. Use deionized water as zero calibrator.
Calibration mode	Linear regression
Calibration replicate	Duplicate recommended
Calibration interval	Each lot and as required following quality control procedures

Traceability: This method has been standardized against the Roche ACP test on a Roche/Hitachi MODULAR P system.

Quality control

Reference range	Precinorm U plus or PreciControl ClinChem Multi 1
Pathological range	Precipath U plus or PreciControl ClinChem Multi 2
Control interval	24 hours recommended
Control sequence	User defined
Control after calibration	Recommended

For quality control, use control materials as listed in the “Order information” section. In addition, other suitable control material can be used.

The control intervals and limits should be adapted to each laboratory’s individual requirements. Values obtained should fall within the defined limits. Each laboratory should establish corrective measures to be taken if values fall outside the defined limits.

Follow the applicable government regulations and local guidelines for quality control.

Limitations - interference

Criterion: Recovery within ± 10 % of initial value.

Icterus:[22] No significant interference up to an I index of 1 for conjugated and unconjugated bilirubin (approximate conjugated and unconjugated bilirubin concentration: 17.1 µmol/L or 1 mg/dL).

Hemolysis:[22] No significant interference up to an H index of 100 (approximate hemoglobin concentration: 62.1 µmol/L or 100 mg/dL).

Lipemia (Intralipid):[22] No significant interference up to an L index of 200. There is poor correlation between the L index (corresponds to turbidity) and triglycerides concentration.

Drugs: No interference was found at therapeutic concentrations using common drug panels.[18,19]Exceptions: Ascorbic acid, cefoxitine and doxycycline cause artificially high prostatic and non-prostatic acid phosphatase results.

In very rare cases, gammopathy, in particular type IgM (Waldenström’s macroglobulinemia), may cause unreliable results.[20]

The addition of stabilizer to the sample interferes with the determination of other parameters.

For diagnostic purposes, the results should always be assessed in conjunction with the patient’s medical history, clinical examination and other findings.

ACTION REQUIRED
Special Wash Programming: The use of special wash steps is mandatory when certain test combinations are run together on COBAS INTEGRA analyzers. Refer to the CLEAN Method Sheet for further instructions and for the latest version of the Extra wash cycle list.
Where required, special wash/carry-over evasion programming must be implemented prior to reporting results with this test.

Limits and ranges

Measuring range

0.5-200 U/L (0.01-3.34 µkat/L)

Determine samples having higher activities via the rerun function. Dilution of samples via the rerun function is a 1:3 dilution. Results from samples diluted using the rerun function are automatically multiplied by a factor of 3.

Lower limits of measurement

Lower detection limit of the test:
0.5 U/L (0.01 µkat/L)

The lower detection limit represents the lowest measurable analyte level that can be distinguished from zero. It is calculated as the value lying 3 standard deviations above that of a zero sample (zero sample + 3 SD, repeatability, n = 21).

Specific performance data

Representative performance data on the analyzers are given below. Results obtained in individual laboratories may differ.

ACP2

Acid Phosphatase Gen.2

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Precision

Precision was determined using human samples and controls in an internal protocol with repeatability (n = 21) and intermediate precision (1 aliquot per run, 1 run per day, 21 days). The following results were obtained on the COBAS INTEGRA 800 analyzer:

Total acid phosphatase

	Repeatability		*Intermediate precision*	
	Mean U/L (µkat/L)	*CV %*	*Mean U/L (µkat/L)*	*CV %*
Precinorm U	24.9 (0.42)	0.4	25.0 (0.42)	0.6
Precipath U	50.1 (0.84)	0.5	50.7 (0.85)	0.6
Human serum 1	2.90 (0.05)	1.5	5.20 (0.09)	2.3
Human serum 2	131 (2.19)	0.3	58.2 (0.97)	0.4

Non-prostatic acid phosphatase

	Repeatability		*Intermediate precision*	
	Mean U/L (µkat/L)	*CV %*	*Mean U/L (µkat/L)*	*CV %*
Precinorm U	12.9 (0.22)	0.8	12.8 (0.21)	1.2
Precipath U	33.6 (0.56)	0.7	33.7 (0.56)	0.8
Human serum 1	1.44 (0.02)	4.1	3.18 (0.05)	4.9
Human serum 2	14.7 (0.25)	0.8	13.4 (0.22)	2.0

The data obtained on COBAS INTEGRA 800 analyzer(s) are representative for COBAS INTEGRA 400 analyzer(s).

Method comparison

Total acid phosphatase

Acid phosphatase values for human serum samples obtained on a COBAS INTEGRA 400 analyzer (y) were compared with those determined using the same reagent on a Roche/Hitachi 917 analyzer (x).

	Sample size (n) = 56
Passing/Bablok[21]	Linear regression
$y = 1.015\ x + 0.159$ U/L	$y = 1.019\ x + 0.123$ U/L
$\tau = 0.906$	r = 0.999
SD (md 95) = 0.672	Sy.x = 0.272

The sample activities were between 1.72 and 115.2 U/L (0.029 and 1.92 µkat/L).

Non-prostatic acid phosphatase

Non-prostatic acid phosphatase values for human serum samples obtained on a COBAS INTEGRA 800 analyzer (y) were compared with those determined using the same reagent on a Roche/Hitachi 917 analyzer (x).

	Sample size (n) = 59
Passing/Bablok[21]	Linear regression
$y = 1.032\ x - 0.236$ U/L	$y = 1.033\ x - 0.319$ U/L
$\tau = 0.887$	r =0.999
SD (md 95) = 0.905	Sy.x = 0.350

The sample activities were between 0.960 and 134.7 U/L (0.016 and 2.25 µkat/L).

The data obtained on COBAS INTEGRA 800 analyzer(s) are representative for COBAS INTEGRA 400 analyzer(s).

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ACP2

Acid Phosphatase Gen.2

A point (period/stop) is always used in this Method Sheet as the decimal separator to mark the border between the integral and the fractional parts of a decimal numeral. Separators for thousands are not used.

Any serious incident that has occurred in relation to the device shall be reported to the manufacturer and the competent authority of the Member State in which the user and/or the patient is established.

Symbols

Roche Diagnostics uses the following symbols and signs in addition to those listed in the ISO 15223-1 standard:

CONTENT	Contents of kit
	Volume for reconstitution
GTIN	Global Trade Item Number
Rx only	For USA: Caution: Federal law restricts this device to sale by or on the order of a physician.

CE 0123

Roche Diagnostics GmbH, Sandhofer Strasse 116, D-68305 Mannheim
www.roche.com
+800 5505 6606

ACP2

Acid Phosphatase Gen.2

Order information

REF		CONTENT		Analyzer(s) on which **cobas c** pack(s) can be used
05975905190	05975905500	Acid Phosphatase Gen.2 4 x 100 tests ACP2/100 tests NPP2 or 4 x 200 tests ACP2	System-ID 03 6930 4	**cobas c** 701/702

Materials required (but not provided):

10759350190	Calibrator f.a.s. (12 x 3 mL)	Code 401	
12149435122	Precinorm U plus (10 x 3 mL)	Code 300	
12149443122	Precipath U plus (10 x 3 mL)	Code 301	
05117003190	PreciControl ClinChem Multi 1 (20 x 5 mL)	Code 391	
05947626190	PreciControl ClinChem Multi 1 (4 x 5 mL)	Code 391	
05117216190	PreciControl ClinChem Multi 2 (20 x 5 mL)	Code 392	
05947774190	PreciControl ClinChem Multi 2 (4 x 5 mL)	Code 392	

English

System information

ACP2: ACN 8021 (Total acid phosphatase)

NPP2: ACN 8022 (Non-prostatic acid phosphatase)

ACPX: ACN 8432 (Total acid phosphatase only)

Intended use

In vitro test for the quantitative determination of acid phosphatase in human serum on **cobas c** systems.

Summary

Measurement of the activity of acid phosphatase (ACP) in serum with this assay, is used to aid in the diagnosis and management of prostate cancer.

Acid phosphatases (ACPs) are a group of enzymes with optimal activity at a pH below 7.0 and can be differentiated according to their immunological properties, tissue distribution and subcellular localisation. To date, at least 5 different ACPs have been reported in human tissues. Lysosomal acid phosphatase is stored in the lysosomes of all body cells, while the highest concentrations of extralysosomal ACP activity occur in the prostate, bone (osteoclasts), spleen, platelets and erythrocytes. ACP activity in blood serum is usually distinguished into tartrate-resistant and tartrate-refractory.[1,2,3] A specific form of ACP sensitive to tartrate inhibition is the secretory prostatic acid phosphatase (PAP), which is normally secreted by prostate tissue. In prostate cancer, circulating levels of PAP are increased.[3,4] PAP has therefore extensively been used as a serum marker for prostate cancer until the introduction of the current gold standard prostate-specific antigen (PSA).[5] Serum PAP levels are particularly increased in individuals with metastatic prostate cancer and correlate with tumor stage. It has been suggested that PAP has clinical application in patient management, in predicting disease recurrence or monitoring the effects of treatment.[4,6] However, PSA is indicated as the preferred test for screening, monitoring and predicting prostate cancer outcomes. Presence or absence of malignant disease can only be confirmed with a prostate biopsy. A multi-parametric magnetic resonance imaging (mpMRI) is recommended before prostate biopsy to facilitate the targeting of suspected lesions.[7,8,9,10]

Activity of total acid phosphatase increases in pathologic conditions of increased osteolysis and bone remodeling, in case of bone metastasis and other types of malignancies, in Gaucher's and Niemann-Pick diseases. Prostatic and total acid phosphatase levels increase after prostate surgery, biopsy, manipulation or catheterization, in the presence of benign prostate hypertrophy, prostatitis and prostate infarction.[1,2,11,12,13] Increased PAP levels should not be considered an absolut test for malignancy and PAP results should always be interpreted in combination with the patient's medical history and further diagnostic evaluations.

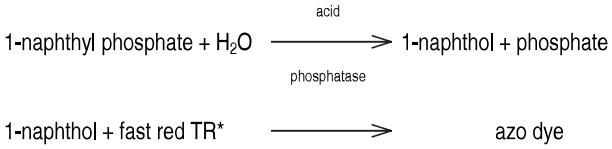
With this assay, PAP is detected with an indirect method by subtraction between ACP and non-prostatic acid phosphatase (NPP). The assay used here is a modification of the method described by Hillmann. Addition of 1,5-pentanediol increases the activity of prostatic acid phosphatase.[14]

Test principle[14]

Colorimetric test

The 1-naphthol released during the enzymatic hydrolysis of 1-naphthyl phosphate is converted to an azo dye by coupling with diazotized fast red TR*. The tartrate is used as a specific inhibitor for prostatic acid phosphatase.

* Fast red TR = 2-amino-5-chlorotoluene



Reagents - working solutions

R1	Bottle R1: Citrate buffer: 150 mmol/L, pH 4.8; 1,5-pentanediol: 220 mmol/L; detergent: 3.3 mL/L Bottle R1a: 1-Naphthyl phosphate: 12.1 mmol/L; fast red TR salt: 1.2 mmol/L Bottle R1b: Sodium tartrate: 100 mmol/L (additionally for non-prostatic acid phosphatase determination)
CH_3COOH	Bottle 2: Acetic acid: 0.8 mol/L (sample stabilizer)

Precautions and warnings

For in vitro diagnostic use for health care professionals. Exercise the normal precautions required for handling all laboratory reagents.

Infectious or microbial waste:
Warning: handle waste as potentially biohazardous material. Dispose of waste according to accepted laboratory instructions and procedures.

Environmental hazards:
Apply all relevant local disposal regulations to determine the safe disposal.

Safety data sheet available for professional user on request.

This kit contains components classified as follows in accordance with the Regulation (EC) No. 1272/2008:

Warning

ACP2

Acid Phosphatase Gen.2

H373	May cause damage to organs through prolonged or repeated exposure.

Prevention:

P260	Do not breathe mist or vapours.

Response:

P314	Get medical advice/attention if you feel unwell.

Disposal:

P501	Dispose of contents/container to an approved waste disposal plant.

Product safety labeling follows EU GHS guidance.

Contact phone: all countries: +49-621-7590

Reagent handling

Total acid phosphatase

Connect 1 bottle **R1** to 1 bottle **R1a** using the enclosed adapter and dissolve the substrate/chromogen mixture completely in the buffer. Fill the mixture into **cobas c** pack position B.

For ACPX prepare the total acid phosphatase reagent as described above in duplicate and fill 1 bottle of the mixture into **cobas c** pack position B and the other into **cobas c** pack position C so that both **cobas c** pack positions contain the same mixture.

Non-prostatic acid phosphatase

Connect 1 bottle **R1** to 1 bottle **R1a** using the enclosed adapter and dissolve the substrate/chromogen mixture completely in the buffer. Add a reagent tablet from bottle **R1b** and dissolve by gently swirling. Fill the mixture into **cobas c** pack position C.

Storage and stability

Shelf life at 2-8 °C:	See expiration date on **cobas c** pack label.
On-board in use and refrigerated on the analyzer:	5 days
On-board on the Reagent Manager:	0 hours

Specimen collection and preparation

For specimen collection and preparation only use suitable tubes or collection containers.

Only the specimens listed below were tested and found acceptable. Serum.

The sample types listed were tested with a selection of sample collection tubes that were commercially available at the time of testing, i.e. not all available tubes of all manufacturers were tested. Sample collection systems from various manufacturers may contain differing materials which could affect the test results in some cases. When processing samples in primary tubes (sample collection systems), follow the instructions of the tube manufacturer.

Separate the serum from the clot or cells promptly.

Perform determinations on the samples immediately. Samples which cannot be examined immediately should be stabilized as follows: Add 1 drop (30 µL) of solution from bottle **2** to 1.0 mL of serum and mix.

Centrifuge samples containing precipitates before performing the assay.

See the limitations and interferences section for details about possible sample interferences.

Stability:[15]	8 days at 15-25 °C
	8 days at 2-8 °C
	4 months at -20 °C (± 5 °C)

Freeze only once.

Materials provided

See “Reagents – working solutions” section for reagents.

Materials required (but not provided)

See “Order information” section

General laboratory equipment

Assay

For optimum performance of the assay follow the directions given in this document for the analyzer concerned. Refer to the appropriate operator’s manual for analyzer-specific assay instructions.

The performance of applications not validated by Roche is not warranted and must be defined by the user.

Application for serum

Total acid phosphatase and Non-prostatic acid phosphatase

cobas c 701/702 **test definition**

Assay type	2-Point Rate		
Reaction time / Assay points	10 / 23-38		
Wavelength (sub/main)	700/415 nm		
Reaction direction	Increase		
Units	U/L (µkat/L)		
Reagent pipetting		Diluent (H_2O)	
R1	120 µL	–	
Sample volumes	*Sample*	*Sample dilution*	
		Sample	*Diluent (NaCl)*
Normal	10 µL	–	–
Decreased	3.3 µL	–	–
Increased	20 µL	–	–

Calibration

Total acid phosphatase:

Calibrators	S1: H_2O
	S2: C.f.a.s. Use the assigned ACP2 value.

Non-prostatic acid phosphatase:

Calibrators	S1: H_2O
	S2: C.f.a.s. Use the assigned NPP2 value.
Calibration mode	Linear
Calibration frequency	2-point calibration • after reagent lot change • as required following quality control procedures

Traceability: This method has been standardized against the Roche system reagent using calibrated pipettes together with a manual photometer providing absolute values and the substrate-specific absorptivity, ε.

Quality control

For quality control, use control materials as listed in the "Order information" section.

In addition, other suitable control material can be used.

The control intervals and limits should be adapted to each laboratory’s individual requirements. Values obtained should fall within the defined limits. Each laboratory should establish corrective measures to be taken if values fall outside the defined limits.

Follow the applicable government regulations and local guidelines for quality control.

Calculation

cobas c systems automatically calculate the analyte activity of each sample.

Conversion factor: U/L x 0.0167 = µkat/L

A) Total acid phosphatase: See instrument printout.

B) Prostatic acid phosphatase:

$Activity_{Prostatic\ acid\ phosphatase}$ =

$Activity_{Total\ acid\ phosphatase}$ - $Activity_{Non\text{-}prostatic\ acid\ phosphatase}$

ACP2

Acid Phosphatase Gen.2

When measuring total acid phosphatase (ACP2) on 1 channel and non-prostatic acid phosphatase (NPP2) on another channel, the prostatic acid phosphatase can be determined directly. The instrument-specific program prints out the difference between the 2 determinations as prostatic acid phosphatase.

Limitations - interference

Criterion: Recovery within ± 10 % of initial value at a total acid phosphatase activity of 7 U/L (0.12 µkat/L) or at a non-prostatic acid phosphatase activity of 4 U/L (0.07 µkat/L).

Icterus:[16] No significant interference up to an I index of 1 for conjugated and unconjugated bilirubin (approximate conjugated and unconjugated bilirubin concentration: 17 µmol/L or 1 mg/dL).

Hemolysis:[16] No significant interference up to an H index of 200 (approximate hemoglobin concentration: 124 µmol/L or 200 mg/dL).

Lipemia (Intralipid):[16] No significant interference up to an L index of 200. There is poor correlation between the L index (corresponds to turbidity) and triglycerides concentration.

Drugs: No interference was found at therapeutic concentrations using common drug panels.[17,18]

Exception: Methyldopa, cefoxitine and doxycycline cause artificially high non-prostatic acid phosphatase results.

In very rare cases, gammopathy, in particular type IgM (Waldenström's macroglobulinemia), may cause unreliable results.[19]

The addition of stabilizer to the sample interferes with the determination of other parameters.

For diagnostic purposes, the results should always be assessed in conjunction with the patient's medical history, clinical examination and other findings.

ACTION REQUIRED

Special Wash Programming: The use of special wash steps is mandatory when certain test combinations are run together on **cobas c** systems. All special wash programming necessary for avoiding carry-over is available via the **cobas** link, manual input is required in certain cases. The latest version of the carry-over evasion list can be found with the NaOHD/SMS/SmpCln1+2/SCCS Method Sheet and for further instructions refer to the operator's manual.

Where required, special wash/carry-over evasion programming must be implemented prior to reporting results with this test.

Limits and ranges

Measuring range

Total acid phosphatase and Non-prostatic acid phosphatase

0.5-200 U/L (0.01-3.34 µkat/L)

Determine samples having higher activities via the rerun function. Dilution of samples via the rerun function is a 1:3 dilution. Results from samples diluted using the rerun function are automatically multiplied by a factor of 3.

Lower limits of measurement

Lower detection limit of the test

0.5 U/L (0.01 µkat/L)

The lower detection limit represents the lowest measurable analyte level that can be distinguished from zero. It is calculated as the value lying 3 standard deviations above that of the lowest standard (standard 1 + 3 SD, repeatability, n = 21).

Values below the lower detection limit (< 0.5 U/L) will not be flagged by the instrument.

Expected values

Total acid phosphatase (37 °C)[20]

Men	< 6.6 U/L (< 0.110 µkat/L)
Women	< 6.5 U/L (< 0.108 µkat/L)

Prostatic acid phosphatase (37 °C)[20]

Men	< 3.5 U/L (< 0.058 µkat/L)

Each laboratory should investigate the transferability of the expected values to its own patient population and if necessary determine its own reference ranges.

Specific performance data

Representative performance data on the analyzers are given below. Results obtained in individual laboratories may differ.

Precision

Precision was determined using human samples and controls in an internal protocol with repeatability (n = 21) and intermediate precision (3 aliquots per run, 1 run per day, 21 days). The following results were obtained on the **cobas c** 701 analyzer:

Total acid phosphatase:

Repeatability	*Mean*	*SD*	*CV*
	U/L (µkat/L)	*U/L (µkat/L)*	*%*
Precinorm U	22.6 (0.377)	0.1 (0.002)	0.5
Precipath U	44.5 (0.743)	0.1 (0.002)	0.2
Human serum A	13.5 (0.225)	0.1 (0.002)	1.0
Human serum B	4.90 (0.082)	0.11 (0.002)	2.1
Human serum C	160 (2.67)	1 (0.02)	0.4
Intermediate precision	*Mean*	*SD*	*CV*
	U/L (µkat/L)	*U/L (µkat/L)*	*%*
Precinorm U	28.3 (0.473)	0.2 (0.003)	0.7
Precipath U	53.4 (0.892)	0.5 (0.008)	0.9
Human serum 3	4.77 (0.080)	0.11 (0.002)	2.4
Human serum 4	28.9 (0.483)	0.1 (0.002)	0.5

Non-prostatic acid phosphatase:

Repeatability	*Mean*	*SD*	*CV*
	U/L (µkat/L)	*U/L (µkat/L)*	*%*
Precinorm U	11.8 (0.197)	0.1 (0.002)	1.1
Precipath U	26.5 (0.443)	0.1 (0.002)	0.5
Human serum A	11.4 (0.190)	0.2 (0.003)	1.6
Human serum B	2.22 (0.037)	0.15 (0.003)	6.8
Human serum C	181 (3.02)	1 (0.02)	0.4
Intermediate precision	*Mean*	*SD*	*CV*
	U/L (µkat/L)	*U/L (µkat/L)*	*%*
Precinorm U	13.4 (0.224)	0.1 (0.002)	1.0
Precipath U	35.1 (0.586)	0.4 (0.007)	1.1
Human serum 3	3.00 (0.050)	0.14 (0.001)	4.6
Human serum 4	18.5 (0.309)	0.2 (0.003)	0.8

Results for intermediate precision were obtained on the **cobas c** 501 analyzer.

The data obtained on **cobas c** 501 analyzer(s) are representative for **cobas c** 701 analyzer(s).

Method comparison

Total acid phosphatase and non-prostatic acid phosphatase

Acid phosphatase values for human serum samples obtained on a **cobas c** 701 analyzer (y) were compared with those determined using the corresponding reagent on a **cobas c** 501 analyzer (x).

Total acid phosphatase:

Sample size (n) = 107

Passing/Bablok[21]	Linear regression
y = 1.004x - 0.009 U/L	y = 1.009x + 0.113 U/L
τ = 0.979	r = 1.000

The sample activities were between 0.900 and 182 U/L (0.015 and 3.04 µkat/L).

ACP2

Acid Phosphatase Gen.2

Non-prostatic acid phosphatase:
Sample size (n) = 108

Passing/Bablok[21]	Linear regression
y = 0.992x + 0.046 U/L	y = 0.991x + 0.221 U/L
τ = 0.827	r = 1.000

The sample activities were between 1.04 and 189 U/L (0.017 and 3.16 µkat/L).

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A point (period/stop) is always used in this Method Sheet as the decimal separator to mark the border between the integral and the fractional parts of a decimal numeral. Separators for thousands are not used.

Any serious incident that has occurred in relation to the device shall be reported to the manufacturer and the competent authority of the Member State in which the user and/or the patient is established.

Symbols

Roche Diagnostics uses the following symbols and signs in addition to those listed in the ISO 15223-1 standard:

CONTENT	Contents of kit
→	Volume for reconstitution
GTIN	Global Trade Item Number
Rx only	For USA: Caution: Federal law restricts this device to sale by or on the order of a physician.

CE 0123

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