

# ABX Pentra RF CP

REF A11A01613

REAGENT 1 22 mL

REAGENT 2 9 mL



IVD CE

HORIBA ABX SAS

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■ Pentra C400

**Diagnostic reagent for quantitative *in vitro* determination of Rheumatoid Factor (RF) in serum or plasma by latex-enhanced immunoturbidimetric assay.**

## Application Release

Serum, plasma: RF (not for use in the USA)

2.xx

## Intended Use (not for use in the USA)

The Rheumatoid Factor assay is used for the quantitation of rheumatoid factor in human serum. Measurement of rheumatoid factor may aid in the diagnosis of rheumatoid arthritis.

## Clinical Interest (1)

Rheumatoid factor (RF) is an auto-antibody against human IgG commonly seen in sera at a high concentration in some conditions, particularly in patients with rheumatoid arthritis (RA).

The measurement of RF value is useful in evaluating the diagnosis, effects of therapy and prognosis of RA, systemic lupus erythematosus, chronic hepatopathy, etc.

**ABX Pentra RF CP** is a latex-enhanced immunoturbidimetric assay developed to accurately measure RF levels in serum samples.

## Method (2)

When an antigen-antibody reaction occurs between RF in a sample and denatured human IgG which has been sensitized to latex particles, agglutination results. This agglutination is detected as an absorbance change, with the magnitude of the change being proportional to the

quantity of RF in the sample. The actual concentration is then determined by interpolation from a calibration curve prepared from calibrators of known concentration.

## Reagents

**ABX Pentra RF CP** is ready-to-use.

### Reagent 1:

Buffer solution: Glycine buffer solution

### Reagent 2:

Latex suspension: 0.17% w/v suspension of latex particles sensitized with denatured human IgG

- After measurements are taken, reagent cassettes should remain in the Pentra C400 refrigerated tray.
- Care should be taken not to interchange the caps with others cassettes.
- Reagents with different lot numbers should not be interchanged or mixed.
- **ABX Pentra RF CP** should be used according to this notice. The manufacturer cannot guarantee its performance if used otherwise.

## Handling <sup>a</sup>

1. Remove both caps of the cassette.
2. If present, remove foam by using a plastic pipette.
3. Position the protective cap (GBM0969) on the cassette.

<sup>a</sup>Modification: correction of handling.

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4. Place the cassette into the refrigerated reagent compartment.

## Calibrator

For calibration, use:

**ABX Pentra RF Cal** ( A11A01618) (not included)  
5 x 1 mL

Calibration of the RF method is carried out by using:

- NaCl solution 9 g/L for Cal 0 (concentration 0 mg/L).
- **ABX Pentra RF Cal**, which contains five RF calibrator levels at different concentrations. Each vial is labelled from 1 to 5. The relation level/calibrator concentration is mentioned below:

Vials:	Cal 1	Cal 2	Cal 3	Cal 4	Cal 5
Concentration (IU/mL):	10	20	40	80	120

## Control

For internal quality control, use:

- **ABX Pentra Immuno I Control L/H** (A11A01621) (not included)  
1 x 3 mL (lyophilisate) + 1 x 3 mL (lyophilisate)

Each control should be assayed daily and/or after a calibration.

The frequency of controls and the confidence intervals should correspond to laboratory guidelines and country-specific directives. You should follow federal, state and local guidelines for testing quality control materials. The results must be within the range of the defined confidence limits. Each laboratory should establish a procedure to follow if the results exceed these confidence limits.

## Materials Required but not Provided

- Automated clinical chemistry analyzer: Pentra C400
- Calibrator: **ABX Pentra RF Cal** ( A11A01618)
- Control: **ABX Pentra Immuno I Control L/H** (A11A01621)
- NaCl solution: 9 g/L
- Standard laboratory equipment.

## Specimen

- Serum.
- Plasma in lithium heparin.

Anticoagulants other than those listed have not been tested by HORIBA Medical and are therefore not recommended for use with this assay.

## Stability (3):

- At 20-25°C: 1 day
- At 4-8°C: 8 days
- At -20°C: 3 months

## Reference Range (4)

Each laboratory should establish its own reference ranges. The values given here are used as guidelines only.

Adults: < 30 IU/mL.

## Storage and Stability

### Stability before opening:

Stable up to the expiry date on the label if stored at 2-10°C.

### Stability after opening:

Refer to the paragraph "Performance on Pentra C400".

## Waste Management

- Please refer to local legal requirements.
- This reagent contains less than 0.1% of sodium azide as a preservative. Sodium azide may react with lead and copper to form explosive metal azides.

## General Precautions <sup>b</sup>

- This reagent is for professional *in vitro* diagnostic use only.
- For prescription use only.
- This reagent is classified as non-hazardous in compliance with regulation (EC) N°.1272/2008.

<sup>b</sup>Modification: general precautions modification.

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## Reagent 2 (R2):

**Warning:** Human source material. Treat as potentially infectious. Each plasma donor unit used in the preparation of this product has been tested by an FDA approved method and found negative for the presence of HBsAg, HCV and antibody to HIV1/2. Because no known test method can offer complete assurance that hepatitis B virus, Human Immunodeficiency Virus (HIV) or other infectious agents are absent, the reagent should be treated like patient specimens as potentially infectious and handled with appropriate cautions in accordance with good laboratory practices (5, 6).

## Reagent 1 (R1):

**Warning:** This reagent is obtained from substances of animal origin. Consequently, it should be treated as potentially infectious and handled with the appropriate cautions in accordance with good laboratory practices (6).

- Diagnosis should only be made after taking clinical symptoms and the results of other tests into consideration.
- Do not pipette by mouth.
- Do not replenish the reagents.
- Do not swallow. Avoid contact with skin and mucous membranes.
- Observe the standard laboratory precautions for use.
- The reagent cassettes are disposable and should be disposed of in accordance with the local legal requirements.
- Please refer to the MSDS associated with the reagent.
- Do not use the product if there is visible evidence of biological, chemical or physical deterioration.
- It is the user's responsibility to verify that this document is applicable to the reagent used.

## Performance on Pentra C400

### Serum, plasma

The performance data listed below are representative of performance on HORIBA Medical Systems.

**Number of tests:** 100 tests

### On Board Reagent Stability

Once opened, the reagent cassette placed in the refrigerated Pentra C400 compartment is stable for 35 days.

**Sample volume:** 5 µL/test

### Limit of Quantitation

The limit of quantitation is determined according to CLSI (NCCLS), EP17-A protocol (7) and equals 11.5 IU/mL.

## Minimum Interpretation Limit

The minimum interpretation limit (MIL) is evaluated using multiple determination of low concentration specimen and equals 7.2 IU/mL.

## Accuracy and Precision

### Repeatability (within-run precision)

Repeatability according to the recommendations found in the Valtec protocol (8) with samples tested 20 times:

- 2 controls
- 3 specimens (low / medium / high levels)

	Mean value IU/mL	CV %
Control specimen 1	19.39	4.00
Control specimen 2	36.66	1.70
Specimen 1	31.13	2.08
Specimen 2	51.51	0.68
Specimen 3	98.25	0.28

### Reproducibility (total precision)

Reproducibility according to the recommendations found in the CLSI (NCCLS), EP5-A2 protocol (9) with samples tested in duplicate for 20 days (2 series per day):

- 2 controls
- 3 specimens (low / medium / high levels)

	Mean value IU/mL	CV %
Control specimen 1	19.34	6.71
Control specimen 2	35.25	4.28
Specimen 1	30.22	4.10
Specimen 2	48.80	3.86
Specimen 3	96.08	2.20

## Measuring Range

The assay confirmed a measuring range from 11.5 IU/mL to 120.0 IU/mL.

The measuring range is extended up to 1200 IU/mL with the automatic post-dilution.

The reagent linearity has been assessed up to 120 IU/mL according to the recommendations found in the CLSI (NCCLS), EP6-A protocol (10).

## Correlation

Patient samples: Serum  
Number of patient samples: 125

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Specimens are correlated with a commercial reagent taken as reference according to the recommendations found in the CLSI (NCCLS), EP9-A2 protocol (11).

Values ranged from 5.20 IU/mL to 111.90 IU/mL.

The equation for the allometric line obtained using Passing-Bablok regression procedure (12) is:

$$Y = 0.95 X - 0.42 \text{ (IU/mL)}$$

with a correlation coefficient  $r^2 = 0.9906$ .

## Interferences

**Haemoglobin:** No significant influence is observed up to 290  $\mu\text{mol/L}$  (500 mg/dL).

**Triglycerides:** No significant influence is observed up to a triglyceride concentration of 6.10 mmol/L (534 mg/dL).

**Total Bilirubin:** No significant influence is observed up to 519  $\mu\text{mol/L}$  (30 mg/dL).

**Direct Bilirubin:** No significant influence is observed up to 462  $\mu\text{mol/L}$  (27 mg/dL).

*Other limitations are given by Young as a list of drugs and preanalytical variables known to affect this methodology (13, 14).*

## Prozone Effect

No antigen excess has been detected up to a concentration of 166 IU/mL.

## Calibration Stability

The reagent is calibrated on Day 0. The calibration stability is checked by testing 2 control specimens.

The calibration stability is 21 days.

*Note: A recalibration is recommended when reagent lots change, and when quality control results fall outside the range established.*

## Reference

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