

# RF TURBIDIMETRY

## INTRODUCTION

Bioline Rheumatoid Factor (RF) is intended for Invitro quantitative determination of Rheumatoid Factor in human serum. Rheumatoid Factors (RF) are heterogeneous group of high molecular weight auto-antibodies of immunoglobulin isotypes IgM, IgA, IgG, and IgE. They are produced by plasma cells present at sites of tissue injury, and may play a role in the regulation of humoral and cellular immunity and protection against invading microorganisms though the exact function of RF remains unclear. Studies have shown that both environmental and genetic factors can affect the synthesis of RF. RF levels are often elevated in patients with rheumatoid arthritis and Sjogren's syndrome, and could also rise in scleroderma, dermatomyositis, Waldenstrom's disease, sarcoidosis, and systemic lupus erythematosus.

## METHOD AND PRINCIPLE

The reagent consists of a suspension of latex particles of homogeneous size sensitized with anti-RF, capable of aggregation in the presence of RF. This aggregation process produces an increase in the size of the latex particles which in turn produces an increase in the turbidity. The reagents when stored at 2-8°C are stable up to expiry date printed on the package. The reagents are stable for 30 days on board the analyser at 2-10°C. Protect from light and avoid contamination.

## WORKING REAGENT PREPARATION AND STABILITY

Assay can be performed with use of separate R1-RF and R2-RF reagents or with use of working reagent. **For working reagent preparation mix gently 4 parts of R1-RF with 1 part of R2-RF. Avoid foaming.**

## CONCENTRATIONS IN THE TEST

RF Latex Reagent : Suspension of Latex particles sensitized with anti- human RF, sodium azide 0.9g/L  
RF Buffer Solution : Glycine buffer, pH 8.1, sodium azide 0.9 g/L

## WARNINGS AND PRECAUTIONS

The security statements are on the label. We advise to read MSDS before reagent manipulation.

Human sera used in controls have been found negative in the reaction with HBsAg and HIV I/II. However, they should be handled with care. On the other hand, reagents and controls are preserved with 0.09% sodium azide. Please, handled with care.

## ADDITIONAL EQUIPMENT

- Automatic analyzer or photometer able to read at 630 nm
- Thermostat at 37°C
- General laboratory equipment

## SPECIMEN COLLECTION AND STABILITY

Fresh sera or stored at 2 - 8°C for no longer than 48 h. It is necessary to freeze the sample when the assay is to be carried out after that period of time. Discard contaminated or hemolyzed sera.

## PLOTTING OF MULTIPOINT CURVE

The RF Turbidimetric is based on Non-Linear Reactions, hence it is strongly recommended to run Multi-standard mode to plot the Multi-point curve to have better accuracy and precise result.

### Serial Dilution Step

	1st	2nd	3rd	4th	5th
Calibrator	100µl	50µl from 1st Tube	50µl from 2 <sup>nd</sup> Tube	50µl from 3 <sup>rd</sup> Tube	50µl from 4 <sup>th</sup> Tube
Normal Saline	0	50 µl	50 µl	50 µl	50 µl
Ratio of Dilution	Neat	1/2	1/4	1/8	1/16

## MANUAL PROCEDURE SINGLE POINT CALIBRATION

Wavelength 630 nm  
Temperature 37°C  
Cuvette 1 cm

Pipette into the cuvette:

Reagent	Calibrator	Test
Working Rgt	1000 µl	1000 µl
Bring upto the temperature of determination. Then add		
Calibrator	10 µl	-
sample	-	10 µl

## SYSTEM PARAMETERS FOR SINGLE POINT CALIBRATION

Method	End point
Wavelength	630 nm
Incubation time	120 sec
Sample volume	0.01ml (10 ul)
Reagent volume	1.0 ml (1000 ul)
Calibrator Conc	Refer Calibrator vial
Units	IU/ml
Reaction slope	Increasing
Linearity	160 IU/ml

**Interferences**

No interference was observed by Bilirubin (250 umol/l), Haemoglobin (10 g/L), Triglycerides (50 g/L), ASO (400 UI/ml). Heparin (12mg/dl), CRP (70mg/L). Other drugs and substances may interfere in the test (see Literatures)

**WASTE MANAGEMENT**

Please refer to local legal requirements.

**REFERENCES**

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- 2) Johnson, P.M., Faulk, W.P., (1976). Clin. Immunol. Immunopathol., 6, 414-440 Taborn, J. D., Walker, S. E., (1979). Lab. Med., 10, 392-395.
- 3) Witherington, R.H., Teitsson, I., Valdimarsson, H., Seifert, M.H. (1984). Ann. Rheum. Dis., 42, 679-685.
- 4) Winkles, J. W., Lunec, J., Gray, L. (1989). Clin. Chem. 35 (2), 303-307. Young DS. Effects of drugs on clinical laboratory tests, 5th ed. AACCPress, 2000.