

MRX ANTITHROMBIN



Antithrombin (AT) is the primary physiological inhibitor of FIIa and FXa, and to a lesser extent FIXa, FXIa and FXIIa. This "natural anticoagulant" is produced by the liver, and effectively regulates and inhibits plasma coagulation. AT testing measures the AT activity, i.e. its capability to inactivate FIIa or FXa. Patients with inherited or acquired AT deficiency are often associated with increased risk of deep venous thrombosis (DVT). AT activity testing is normally ordered along with other tests for hypercoagulable disorders, when investigating DVT, suspected disseminated intravascular coagulation (DIC) or when monitoring AT therapy.

There are two types of AT deficiency. Type I where functional AT is produced but the quantity is insufficient. Type II where a sufficient quantity of AT is produced but the activity is dysfunctional. AT deficiency type I and II can easily be detected using chromogenic activity assays, while only type I can be detected by quantitative immunological assays. Thus, functional chromogenic assays are normally preferred as a comprehensive method for detection of AT deficiencies.

MRX AT is a functional chromogenic assay based on the inhibition of FIIa or FXa in the presence of heparin. The chromogenic AT assay measures the AT activity (functional AT) by a two-stage method as follows: An excess of FXa/FIIa is added to the citrated plasma sample pre-diluted with saline and in the presence of heparin. The residual FXa/FIIa cleaves the peptide linked to the chromogenic FXa/FIIa substrate, which results in the release of free p-nitroaniline (pNA). The amount of released pNA is measured at 405nm and the absorbance is inversely proportional to the AT activity in the patient plasma, expressed as IU/mL or %.

Heparin + citrated plasma (AT) + FXa/FIIa (excess)	→	Heparin-AT-FXa/FIIa + FXa/FIIa residual
FXa/FIIa residual + Peptide-Chromogenic Substrate	→	pNA + peptide

- » Liquid components, ready to use
- » FXa-based assay
- » Insensitive to Heparin Cofactor II (HCII)
- » Detects both type I and type II AT deficiencies

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DETAILS & TYPICAL DATA

Product form:	Liquid components
Origin:	Bovine FXa
Additional products needed:	<ul style="list-style-type: none">• Sample Diluent (0,9 % NaCl) (MRX184)• Eximius Control Basic or Plus (L1/L2/L3) (MRX170-MRX173, MRX180-MRX183)• Scandinavian Basic, Multi or Multi Plus Controls (L1/L2) (GHI163/GHI169, GHI162/GHI167B, GHI164/GHI170)• AT Calibrator (MRX1201) or Multi Calibrator II (MRX1203)
Linearity	0,8-1,20 IU/mL
No interference with:	UFH and LMWH <4,0 IU/mL, Bilirubin <0,4 g/L, triglycerides <5 g/L, hemoglobin <1,5 g/L

STABILITY & STORAGE

Storage:	2-8 °C
Shelf-life:	24 months at 2-8 °C
Open-vial stability:	30 days at 2-25 °C

ORDERING INFORMATION

Reference number	Product description	Size
MRX1200	Antithrombin (FXa reagent + substrate)	6x6 mL + 3x3 mL
MRX184	Sample Diluent (0,9% NaCl)	1x8 mL
MRX170	Eximius Control Basic (L1+L2+L3)	4+4+2x1 mL
MRX171/172/173	Eximius Control Basic (L1/L2/L3)	10x1 mL pack per level
MRX180	Eximius Control Plus (L1+L2+L3)	4+4+2x1 mL
MRX181/182/183	Eximius Control Plus (L1/L2/L3)	10x1 mL pack per level
GHI163/169	Scandinavian Basic Control (L1/L2)	10x1 mL pack per level
GHI162/167B	Scandinavian Multi Control (L1/L2)	10x1 mL pack per level
GHI164/170	Scandinavian Multi Plus Control (L1/L2)	10x1 mL pack per level
MRX1201	AT Calibrator	1x1 mL
MRX1203	Multi Calibrator II (PT Quick, AT, fibrinogen)	1x1 mL
MRX1203-10	Multi Calibrator II (PT Quick, AT, fibrinogen)	10x1 mL