

Anti-factor Xa

The anti-factor Xa assay is designed to measure plasma [heparin](#) (UH and LMWH) levels and to monitor anticoagulant therapy.

Anti-factor Xa and anti-thrombin activities of unfractionated (UF) and low molecular weight (LMW) heparins have been measured in human plasma and with purified human antithrombin III (ATIII) in the absence and presence of 1.5 mM calcium. The anti-factor Xa and anti-thrombin activities were measured directly, by assessing the heparin-dependent pseudo-first order rate constants of inactivation of human factor Xa or thrombin. These activities were studied with the 4th International Standard for UF heparin, the 1st International Standard for LMW heparin, CY216, enoxaparin, CY222, and the synthetic pentasaccharide. In plasma, calcium equally well increased the specific anti-factor Xa catalytic activities as compared to purified ATIII. That is, 1.5 mM calcium stimulated the UF standard heparin-catalysed inactivation of factor Xa 2.1-2.4 times. In the presence of the LMW heparins the effect of calcium was smaller (1.3-1.7 times), and in plasma there was no effect of calcium on the pentasaccharide-catalysed inactivation of factor Xa. Thus, the largest effects of calcium in the inactivation reaction of factor Xa is seen with UF standard heparin. Calcium reduced the anti-thrombin activities of all the heparin preparations studied about 1.5 times when purified ATIII was used, although in plasma this effect was less clear. Consequently, in the presence of 1.5 mM calcium the ratio of the anti-factor Xa to the anti-thrombin activities of UF standard heparin approximated those of the LMW heparins. The only exception was CY222, which under all conditions retained anti-factor Xa/anti-thrombin ratios significantly higher than those of UF standard heparin ¹⁾.

¹⁾

Schoen P, Lindhout T, Hemker HC. Ratios of anti-factor Xa to antithrombin activities of heparins as determined in recalcified human plasma. Br J Haematol. 1992 Jun;81(2):255-62. PubMed PMID: 1322691.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=anti_factor_xa

Last update: **2024/06/07 02:53**

