Cover Picture

Sanjoy K. Das, Jean-Maurice Mallet, Jacques Esnault, Pierre-Alexandre Driguez, Philippe Duchaussoy, Philippe Sizun, Jean-Pascal Hérault, Jean-Marc Herbert, Maurice Petitou, and Pierre Sinaÿ

The cover picture shows how thrombosis occurs in the deep veins of the lower limbs. Stasis, which results from slow and turbulent blood flow, combined with hypercoagulation, caused, for example, by a surgical procedure, may result in thrombus formation. The synthetic sulfated pentasaccharide shown in part is a potent antithrombotic compound that exerts its effect by activation of the plasma protein antithrombin III. Conformationally locked monosaccharides have now been synthesized to demonstrate that L-iduronic acid, one part of the pentasaccharide, must adopt an unusual distorted conformation to activate antithrombin III. Such conformational effects might be relevant in explaining the unique biological properties of glycosaminoglycans that contain L-iduronic acid. In the background of the picture, a flight of vampire bats is attracted by the pentasaccharide. Vampire was the name given to South American blood-sucking bats (Latin name: *desmodus rotundus*) in 1761 by the French naturalist Georges Louis Leclerc Comte de Buffon (1707 – 1788). These bats are known to attack cattle and, very rarely, sleeping human beings. Although their saliva has been shown to contain an anticoagulant compound, they would also be happy to benefit from the pentasaccharide mentioned above, to suck the blood out of the vein more easily. More details about this compound which would be helpful to vampire bats are reported by Petitou, Sinaÿ et al. on p. 1670 ff.