"NOVEL, HEPARIN-LIKE ANTICOAGULANTS"

VCU #08-49

Applications

- Anticoagulant for thrombic and cardiovascular disorder therapy
- Anticoagulant for surgery and kidney dialysis
- Anticoagulant coatings

Advantages

- Novel mode of action (both direct and indirect)
- Easily synthesized
- Anticoagulation can be reversed with FDA approved drug
- Inhibition of coagulation nearly equivalent to low molecular weight heparin
- No side effects expected

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Market Need

Heparin, a naturally occurring anticoagulant, is the most commonly used agent to treat thrombotic disorders, to prevent coagulation during surgery, and to coat medical devices that come into contact with blood or plasma. The U.S. market for heparin is estimated at $6 - 10 billion. Yet heparins are plagued with severe, sometimes fatal, clinical side-effects including enhanced bleeding risk, adverse immunological reactions, response variability, and heparin-induced thrombocytopenia and osteoporosis.

Technology Summary

These are novel oligomers that potently inhibit coagulation with nearly equivalent anticoagulation activity as heparin. These oligomers are easily synthesized and have a novel mode of action. Furthermore, their activity is readily reversed with the FDA approved drug sucrose octasulfate. These oligomers are promising alternatives to heparin, potentially alleviating the severe side effects associated with traditional anticoagulation therapy.

Technology Status

Issued Patent (No. 8,491,872)
This technology is available for licensing to industry for further development and commercialization.