PREFACE

Marine algae serve as a source of compounds not only for potential drug development but also for commercial products of great importance. India is one among twelve mega biodiversity countries and twenty five hot spots of richest and highly endangered eco-regions of the world. India has a coastline of about 8000 km and in Kerala it comes to about 580 km. The biodiversity of marine organisms of Kerala has not been exploited at all. The green edible algae *Ulva*, are common in Kerala coast and are richly available in the coast of Thirumullavaram, Kollam which was selected as the site for algal collection. Polysaccharides represent a structurally diverse class of macromolecules of relatively widespread occurrence in nature. Among the macromolecules, polysaccharides offer the highest capacity for carrying biological information because they have the greatest potential for structural variability and it helps for the development of drug for various diseases. A novel high molecular weight sulphated polysaccharide from *Ulva fasciata* was isolated, characterized and ensured the safety in mammalian system. Bioactivities of the polysaccharide were explored for therapeutic applications.

The thesis contains nine chapters. General introduction is given in chapter I, Review of literature in chapter II, Materials and methods in chapter III. Isolation, purification and characterisation of polysaccharides from *Ulva fasciata* is given in chapter IV, Anticoagulant and antithrombotic activity is given in chapter V, *in vitro* antioxidant activity is given in chapter VI, Anti-inflammatory activity is given in chapter VII, Anticancerous activity in chapter VIII and Summery and conclusion in chapter IX.