

Preface

The storage of biological material for regular or future use is a fundamental requirement in many biological and medical sciences. Cryopreservation and freeze-drying are the preferred techniques for achieving long-term storage, and have been applied to a diverse range of biological materials. Though the basis for many methodologies is common, laboratories frequently lack expertise with the correct storage procedures, so that many apply outdated or inappropriate protocols for storing their samples or cultures.

Cryopreservation and Freeze-Drying Protocols is a compilation of the many and varied methodologies that have been developed in expert laboratories. The protocols are reproducible, robust, and in most instances have been transferred quite successfully to other laboratories. Our intended readers are those proposing to establish or improve biostorage systems in their own laboratories or units, whether concerned with culture collections, animal husbandry, aquaculture, or human fertilization programs.

Because the emphasis of *Cryopreservation and Freeze-Drying Protocols* is on methodology, it is our intention to provide readers with the tools to make practical progress without reference to other sources. Each chapter deals with an organelle, cell, or tissue type: a short introduction on the status of its biostorage development is followed by a detailed description of the materials required and a methodological protocol to be followed, with explanatory notes.

This is very much a first edition; we hope and trust that future editions will contain cryopreservation and freeze-drying protocols for cells, tissues, and organs that are at present still recalcitrant to successful preservation.

All of the protocols that follow are the result of painstaking development and modification over many years; we thank each contributor for providing a distillation of their efforts that should allow fresh application of their protocols in similar laboratories or units around the world.

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