

It is interesting to point out that polyamines were originally identified in a variety of different sources: human and animal sperm, different animal organs, as products of bacterial activity on decomposing corpses, etc., with apparently nothing in common, except their general chemical structure and as mere chemical curiosities. This obscure origin, quite different from the interest awakened by sugars, amino acids, vitamins, and nucleotides, in no way anticipated the essential role of polyamines in all living organisms. It was not until recent years that the study of polyamines, their mechanisms of synthesis, and the roles they play in metabolism has flourished, becoming a fertile field of intense research.

Encouraged by the information generated in our laboratory by many years of studying the roles of polyamines in fungal differentiation, as well as the many unanswered questions surrounding these molecules, we decided to write this book, moreover considering that no extensive review focused on polyamines in fungi has been recently written. Accordingly, the aim of this book is to provide an up-to-date account of the contribution and the potential use of fungi as models for the basic study of polyamines, in comparison with other organisms.

Of particular importance are the unanswered questions regarding polyamines that are explored, although unfortunately answered only in part. Among them, we may cite, are as follows: What is the individual function of each one of the polyamines; what is the answer to their high levels of regulation, including transport and back conversion; what is the precise role of spermine, taking into consideration that it is present only in some organisms, including several fungal groups, while most of them only possess putrescine and spermidine; and what are the basic mechanisms of function of polyamines in all the roles they have in the cells, including differentiation?

We have tried to write all the chapters in which the book is divided in the form of self-contained reviews of specific points, but in such a way that they invite the reader to go through the whole book. Nothing would be more satisfactory to us than fulfilling this expectancy.

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