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| Nota di contenuto | CALCIUM BINDING PROTEINS; CONTENTS; Preface; 1 Historical Perspective; 1.1 Biomineralization; 1.2 Coagulation; 1.3 Secondary Messengers (Anticipated); 1.4 Colloids; 1.5 Cross-Linking and Cell Surfaces; 1.6 Secondary Messengers (Updated); 1.7 Pumps, Channels, and Ionophores; 1.8 Calcium Binding Proteins; 1.9 Secondary Messengers (Yet Again); 1.10 Mitochondria; 1.11 Pumps, Channels, and Ionophores; 1.12 Hormones; 1.13 Measurement; 1.14 Biomineralization: Redux; 2 Physiological Processes Involving Calcium Binding Proteins; 2.1 Calcium as a Secondary Messenger; 2.2 Calcium Buffers 2.3 Calcium Pumps and Channels2.4 Mitochondria; 2.5 Eubacteria; 2.6 Calcium and Extracellular Proteins; 2.7 Biomineralization; 2.8 Calcium and Viruses; 3 Comparison of the Ca ²⁺ Ion with Other Metal Cations; 3.1 Calcium Isotopes; 3.2 Calcium in the Environment; 3.3 Uses of Calcium; 3.4 Health Effects of Calcium; 3.5 Biologically Significant Metals in the Periodic Table; 3.6 Hydration of Metal Ions; 3.7 "Hard" and "Soft" Metal Ions; 4 Complexes of Calcium and Other Cations with |

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4.2 Dissociation Constants of Calcium and Analogs with Small Compounds
4.3 Solubilities of Calcium and Analogs with Small Compounds; 5 Stoichiometry, Kinetics, and Thermodynamics of Calcium Binding; 5.1 Stoichiometry, Affinity, and Cooperativity of Binding; 5.2 Kinetics of Binding; 5.3 Partition of Free Energy of Binding (G) Among Enthalpy (H) and Entropy (S); 6 Experimental Methods Used to Study Calcium Binding to Proteins; 6.1 Radioactivity; 6.2 Ion-Selective Electrodes; 6.3 Calcium Buffers; 6.4 Dialysis, Equilibrium, and Flow; 6.5 Proteolysis; 6.6 Deuterium Exchange
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11.1 CTER (Calmodulin, Troponin C, Essential and Regulatory Light Chain) Subfamily

Sommario/riassunto

Calcium Binding Proteins explains the unique and highly diverse functions of calcium in biology, which are realized by calcium binding proteins. The structures and physical characteristics of these calcium binding proteins are described, as well as their functions and general patterns of their evolution. Techniques that underlie the description of proteins are discussed, including NMR, circular dichroism, optical rotatory dispersion spectroscopy, calorimetry, and crystallography. The book discusses the patterns of biochemical phenomena such as calcium homeostasis, mineralization, and cell
