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Nota di contenuto	Catalytic Antibodies; Foreword; Table of Contents; Preface; List of Contributors; 1 Immunological Evolution of Catalysis; 1.1 Introduction; 1.2 Parallels between Antibody and Enzyme Evolution; 1.3 Evolution of Catalytic Antibodies; 1.4 Ferrochelatase Antibody 7G12 - Evolution of the Strain Mechanism; 1.5 Esterase Antibody 48G7 - Effect of Distant Mutations on Catalysis; 1.6 Sulfur Oxidase Antibody 28B4 - Incremental Changes in Evolution; 1.7 Oxy-Cope Antibody AZ28 - Evolution of Conformational Diversity in Catalysis 1.8 Diels-Alderase Antibody 39A11 - Evolution of a Polyspecific Antibody combining Site 1.9 Conclusions; References; 2 Critical Analysis of Antibody Catalysis; 2.1 Introduction; 2.2 Exploiting Antibodies as Catalysts; 2.3 Catalytic Efficiency; 2.4 Hapten Design; 2.5 Representative Catalytic Antibodies; 2.5.1 Proximity Effects; 2.5.1.1 Sigmatropic Rearrangements; 2.5.1.2 Cycloadditions; 2.5.2 Strain; 2.5.2.1 Ferrochelatase Mimics; 2.5.2.2 Other Systems; 2.5.3 Electrostatic Catalysis; 2.5.3.1 Acyl Transfer Reactions; 2.5.4 Functional Groups; 2.5.4.1 Aldolases; 2.6 Perspectives 2.6.1 General Lessons from Comparisons of Enzymes and Antibodies

6.2 How efficient does catalysis need to be?; 2.6.3 Strategies for Optimizing Efficiency; 2.6.3.1 Better Haptens; 2.6.3.2 Screening; 2.6.3.3 Engineering; 2.6.3.4 Selection; 2.6.3.5 Other Scaffolds; 2.7 Conclusions; References; 3 Theoretical Studies of Antibody Catalysis; 3.1 Introduction; 3.2 Questions Subject to Theoretical Elucidation; 3.2.1 Predicting Antibody Structure from Sequence; 3.2.2 Predicting Binding Modes and Binding Energies; 3.2.3 Understanding Antibody Catalysis [14]; 3.2.4 General Considerations
3.3 Hydrolytic Antibodies 3.3.1 Gas and Solution Phase Hydrolysis of Aryl Esters; 3.3.2 Hapten Fidelity; 3.3.3 Theoretical Exploration of Antibody Catalysis; 3.3.3.1 16G3; 3.3.3.2 6D9; 3.3.3.3 43C9; 3.3.3.4 CNJ206; 3.3.3.5 48G7; 3.3.3.6 17E8 and 29G11; 3.4 Cationic Cyclizations; 3.4.1 Antibody Catalysis of Solvolysis; 3.4.2 Antibody-Catalyzed Hydroxyepoxide Cyclization; 3.5 Antibody-Catalyzed Diels-Alder and retro-Diels-Alder Reactions; 3.5.1 The Most Efficient endo-Diels-Alderase 1E9; 3.5.2 endo-Diels-Alderase 39A11 and its Germline Precursor; 3.5.3 exo-Diels-Alderase 13G5
3.5.4 retro-Diels-Alderase 10F11 3.6 Other Antibody-Catalyzed Pericyclic Reactions; 3.6.1 Oxy-Cope Rearrangement Catalyzed by Antibody AZ-28; 3.6.2 1,3-Dipolar Cycloaddition Catalyzed by Antibody 29G12; 3.6.3 Chorismate-Prephenate Claisen Rearrangement Catalyzed by Antibody 1F7; 3.7 Antibody-Catalyzed Carboxybenzoxazole Decarboxylation; 3.8 Summary; References; 4 The Enterprise of Catalytic Antibodies: A Historical Perspective; 4.1 Introduction; 4.2 Methods; 4.3 Results; 4.3.1 The Conceptual Origins of Catalytic Antibodies; 4.3.2 Tapping the Immune System for Catalysts; 4.4 Conclusions
References

Sommario/riassunto

Exploiting the inherent combinatorial mechanism in the biosynthesis of antibodies, an almost limitless variety of biocatalysts may be generated. Catalytic antibodies are capable of performing almost any type of reaction with high selectivity and stereospecificity. Here, the pioneers in the use of catalytic antibodies review the entire scope of this interdisciplinary field, covering such topics as: * theoretical aspects of structure, mechanism and kinetics * practical considerations, from immunization techniques to screening methods * in vitro evolution and other modern approaches <b
