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The Benefits of Sex

In Multicellular Animals the Diploid Phase Is Complex and Long, the Haploid Simple and Fleeting

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The Cellular Basis of Immunity

The Immune System Is Composed of Billions of

B Lymphocytes Make Humoral Antibody Responses; T Lymphocytes Make Cell-mediated Immune Responses

All Lymphocytes Develop from Pluripotent

Hemopoietic Stem Cells

and Lymphocyte Differentiation

Acquired Immunological Tolerance

Also Be Induced in Mature Animals

Clones

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Two Identical Heavy Chains

with Different Biological Properties

Culture Dish

Never Both

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Many Ways

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Polypeptide Chains—Two Identical Light Chains and

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Antibodies Can Have Either κ or λ Light Chains But

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Antibodies Recruit Complement and Various Cells to

Myeloma Proteins Are Homogeneous Antibodies Made

L and H Chains Consist of Constant and Variable

The Fine Structure of Antibodies

The L and H Chains Each Contain Three Hypervariable Regions That Together Form the

The Antigen-specific Receptors on B Cells Are

An Antibody Molecule Is Composed of Four

Cell-Surface Markers Make It Possible to Distinguish and Separate T and B Cells Most Lymphocytes Continuously Recirculate Between the Blood and Lymph

The Generation of Antibody Diversity

More than One Gene Segment Codes for Each L and

Two Gene Segments Code for the V Region of Each L

Three Gene Segments Code for the V Region of Each

Recombination, by the Combinatorial Joining of Light

The Mechanisms of Antibody Gene Expression Ensure

The Switch from a Membrane-bound to a Secreted Form of the Same Antibody Occurs Through a Change in the H-Chain RNA Transcripts

B Cells Can Switch the Class of Antibody They Make

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Proteolytic Cascade

Antigen Complexes

Microorganisms

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