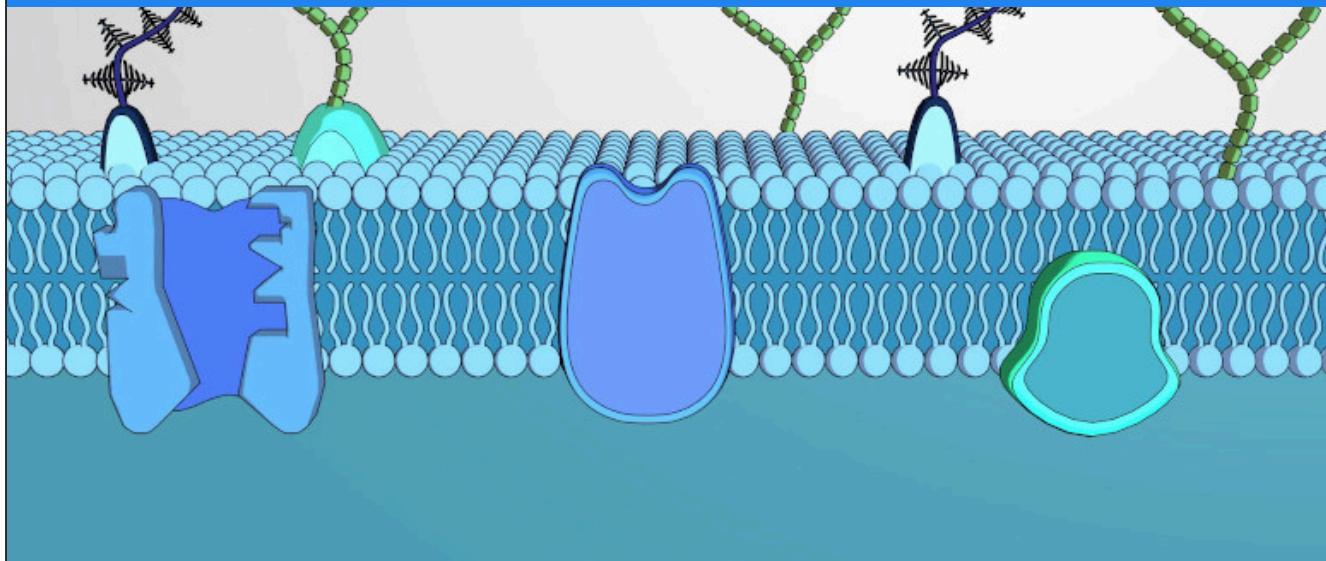


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GENERAL BIOLOGY



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Topics



1700+

Lessons



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Scientist-In-Action
Videos



Core Learning Objectives

To study the essential components and functions of the cell.

Investigate various aspects of membrane transport and protein sorting.

Understand the underlying mechanisms of cellular energy processes and central dogma.

Explore the intricacies of cell signaling, cytoskeleton, and cellular organization.

Review common laboratory and visualization techniques in cell biology.

Delve into the mechanisms of cell generation, proliferation, repair, and stem cell biology.

01

JoVE Core: Anatomy and Physiology.

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- 1.1 Introduction to the Human Body
- 1.2 Diagnostic Imaging Techniques
- 1.3 Fundamentals of Chemistry
- 1.4 Biochemistry of the Cell
- 1.5 Cells and Their Components
- 1.6 Cell Membrane Structure and Functions
- 1.7 Essential Cellular Processes
- 1.8 Tissues of the Human Body
- 1.9 The Integumentary System
- 1.10 Bone Tissue and the Skeletal System
- 1.11 The Axial Skeleton
- 1.12 The Appendicular Skeleton
- 1.13 The Joints
- 1.14 Muscle Tissue
- 1.15 The Muscular System
- 1.16 The Nervous System and Nervous Tissue
- 1.17 Anatomy of the Central and Peripheral Nervous System
- 1.18 Functions of the Central and Peripheral Nervous System
- 1.19 The Autonomic Nervous System
- 1.20 The Special Senses
- 1.21 The Endocrine System
- 1.22 Blood
- 1.23 The Heart
- 1.24 Blood Vessels and Circulation
- 1.25 The Lymphatic and Immune System
- 1.26 The Respiratory System
- 1.27 Digestive System
- 1.28 Absorption of Nutrients
- 1.29 The Urinary System
- 1.30 Fluid, Electrolyte, and Acid-Base Balance
- 1.31 The Reproductive System

02

JoVE Core: Biology.

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- 2.1 Scientific Inquiry
- 2.2 Chemistry Of Life
- 2.3 Macromolecules
- 2.4 Cell Structure And Function

- 2.6 Cell Signaling
- 2.7 Metabolism
- 2.8 Cellular Respiration
- 2.9 Photosynthesis
- 2.10 Cell Cycle And Division
- 2.11 Meiosis
- 2.12 Classical And Modern Genetics
- 2.13 DNA Structure And Function
- 2.14 Gene Expression
- 2.15 Biotechnology
- 2.16 Viruses
- 2.17 Nutrition And Digestion
- 2.18 Nervous System
- 2.19 Sensory Systems
- 2.20 Musculoskeletal System
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- 2.25 Reproduction And Development
- 2.26 Behavior
- 2.27 Ecosystems
- 2.28 Population And Community Ecology
- 2.29 Biodiversity And Conservation
- 2.30 Speciation And Diversity
- 2.31 Natural Selection
- 2.32 Population Genetics
- 2.33 Evolutionary History
- 2.34 Plant Structure, Growth, And Nutrition
- 2.35 Plant Reproduction
- 2.36 Plant Responses To The Environment

03

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- 3.2 Biochemistry Of The Cell
- 3.3 Energy And Catalysis
- 3.4 Introduction To Metabolism
- 3.5 Protein Structure
- 3.6 Protein Function
- 3.7 Structure And Organization Of Dna
- 3.8 Dna Replication And Repair

- 3.9 Transcription: Dna To Rna
- 3.10 Translation: Rna To Protein
- 3.11 Control Of Gene Expression
- 3.12 Membrane Structure And Components
- 3.13 Membrane Transport And Active Transporters
- 3.14 Channels And The Electrical Properties Of Membranes
- 3.15 Transmembrane Transport In Endoplasmic Reticulum And Peroxisomes
- 3.16 Intracellular Compartments And Protein Sorting
- 3.17 Intracellular Membrane Traffic
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- 3.19 Mitochondria And Energy Production
- 3.20 Chloroplasts And Photosynthesis
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- 3.35 Cell Division
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- 4.5 DNA and Chromosome Structure
- 4.6 Dna Replication
- 4.7 DNA Repair And Recombination
- 4.8 Transcription: DNA to RNA
- 4.9 Transcription: Rna To Protein
- 4.10 Gene Expression
- 4.11 Additional Roles Of Rna
- 4.12 Mendelian Genetics
- 4.13 Genomes And Evolution
- 4.14 Cell Signaling Pathways
- 4.15 Studying Dna And Rna
- 4.16 Analyzing Gene Expression And Function
- 4.17 Cell Proliferation
- 4.18 Cell Division
- 4.19 Meiosis
- 4.20 Cancer

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