Cell and Molecular Biology for Medicine

University Medicine · Vocabulary in context

Word	Example
cell and molecular biology for medicine	**Cell and molecular biology for medicine** explains how cells work.
ribosome /ˈriːbəʊsəʊm/	The **ribosome** builds the protein.
mitochondrion	A liver cell has about a thousand of them, so each **mitochondrion** works hard.
nucleus /ˈnjuːklɪəs/	The **nucleus** holds the cell's DNA.
cell /sel/	Every living thing is made of at least one **cell**.
rough endoplasmic reticulum /rʌf ˌendəʊˈplæzmɪk reˈtɪkjʊləm/	The **rough endoplasmic reticulum** makes proteins that leave the cell.
Golgi /ˈgɒlgɪ/	The **Golgi** packs proteins and sends them where they are needed.
lysosome /ˈlaɪsəʊsəʊm/	A **lysosome** holds enzymes that break down old parts of the cell.
lipid bilayer	The **lipid bilayer** is a thin layer of fat that ions cannot cross alone.
simple diffusion /ˈsɪmpl dɪˈfjuːʒn/	Oxygen crosses the membrane by **simple diffusion**.
facilitated diffusion /fəˈsɪlɪteɪtɪd dɪˈfjuːʒn/	Glucose enters red blood cells by **facilitated diffusion** through carrier proteins.

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primary active transport	**Primary active transport** uses ATP directly, as in the sodium pump. ATP
secondary active transport	**Secondary active transport** uses one gradient to move another substance.
Nernst equation /nɜːnst ɪˈkweɪʒn/	The **Nernst equation** shows how the electrode potential changes with concentration.
resting potential /ˈrestɪŋ pəˈtenʃl/	At **resting potential**, the inside of the neurone is about −70 mV. −70 mV
replication fork	At the **replication fork**, the two DNA strands are pulled apart. DNA
leading strand /ˈliːdɪŋ strænd/	The **leading strand** is copied in one long piece.
lagging strand /ˈlægɪŋ strænd/	The **lagging strand** is copied in short pieces that are joined later.
Okazaki fragment	An **Okazaki fragment** is a short piece of new DNA on the lagging strand. DNA
proofreading	**Proofreading** lets DNA polymerase fix its own mistakes. DNA
mismatch repair	**Mismatch repair** fixes wrong base pairs after copying.
nucleotide excision repair	**Nucleotide excision repair** cuts out damaged DNA, such as damage from sunlight. DNA DNA
central dogma	The **central dogma** says DNA makes RNA, and RNA makes protein. DNA RNA RNA

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pre-mRNA	**Pre-mRNA** still has introns that must be removed.
transcription /træn'skrɪpʃn/	In **transcription**, the DNA code is copied into RNA. DNA RNA
splicing	**Splicing** removes introns, so one gene can make several proteins.
translation /træn'sleɪʃn/	In **translation**, the ribosome reads the RNA and builds a protein. RNA
codon /'kəʊdɒn/	The **codon** AUG codes for the amino acid methionine. AUG
transcription factor /træn'skrɪpʃn 'fæktə/	A **transcription factor** can switch a gene on.
enhancer	An **enhancer** can switch a gene on from far away on the DNA. DNA
chromatin	**Chromatin** is DNA wrapped around proteins. DNA
methylation /ˌmeθɪ'leɪʃn/	DNA **methylation** can switch a gene off. DNA
epigenetics /ˌepɪdʒɪ'netɪks/	**Epigenetics** changes how genes are used without changing the DNA code. DNA
epigenetic	An **epigenetic** change affects a gene without changing its code.
GPCR	A **GPCR** passes a signal into the cell through a G protein. G
RTK	An **RTK** passes on a signal by adding phosphate groups.

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second messenger /ˈsekənd ˈmesɪndʒə/	Cyclic AMP is a **second messenger**: it carries the signal inside the cell.
cell cycle /sel ˈsaɪkl/	The **cell cycle** has three stages: growth, copying DNA, and division. 、 DNA
checkpoint /ˈtʃekpɔɪnt/	A **checkpoint** stops the cell cycle if something is wrong.
apoptosis /əpəpˈtəʊsɪs/	**Apoptosis** is planned cell death.
tumour suppressor gene	A **tumour suppressor gene** normally stops cells dividing too much.

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