Control and coordination

A-Level Biology · Vocabulary in context

Word	Example
endocrine system /ˈendəʊkraɪn ˈsɪstəm/	The **endocrine system** uses hormones to send messages in the blood.
hormone /ˈhɔːməʊn/	Insulin is a **hormone**.
nervous system /ˈnɜːvəs ˈsɪstəm/	The **nervous system** carries fast messages.
impulse /ˈɪmpʌls/	A nerve **impulse** travels along the neurone as an electrical signal.
endocrine glands /ˈendəʊkraɪn glændz/	**Endocrine glands** release hormones into the blood.
neurone /ˈnjuːrəʊn/	A **neurone** is a nerve cell that carries electrical signals.
sensory neurone /ˈsensəri ˈnjuːrəʊn/	A **sensory neurone** carries signals from the skin to the spinal cord.
motor neurone /ˈməʊtə ˈnjuːrəʊn/	A **motor neurone** carries signals from the spinal cord to a muscle.
muscle /ˈmʌsl/	Your heart is made of **muscle**.
intermediate neurone /ˌɪntəˈmiːdɪət ˈnjuːrəʊn/	An **intermediate neurone** links the sensory neurone to the motor neurone.
sensory receptor /ˈsensəri rɪˈseptə/	A **sensory receptor**, such as a cell in the eye, detects a change.
stimulus /ˈstɪmjʊləs/	A hot plate is a **stimulus**.

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chemoreceptor /ˌkiːməʊˈreseptə/	A **chemoreceptor** detects chemicals, such as carbon dioxide in the blood.
taste bud /teɪst bʌd/	Each **taste bud** on your tongue detects chemicals in food.
action potential /ˈækʃn pəˈtenʃl/	An **action potential** travels along the nerve.
receptor potential	A stronger stimulus gives a bigger **receptor potential**.
threshold /ˈθreʃəʊld/	The alarm goes off above a **threshold** temperature.
resting potential /ˈrestɪŋ pəˈtenʃl/	At **resting potential**, the inside of the neurone is about −70 mV. −70 mV
membrane potential /ˈmembreɪn pəˈtenʃl/	The **membrane potential** is the voltage across the cell membrane.
hyperpolarisation	In **hyperpolarisation**, the inside of the neurone becomes even more negative than at rest.
refractory period /rɪˈfræktəri ˈpɪərɪəd/	During the **refractory period**, the neurone cannot fire again.
local circuits	**Local circuits** of moving ions start the next part of the axon firing.
myelin sheath /ˈmaɪəlɪn ʃiːθ/	The **myelin sheath** covers the axon and makes impulses travel faster.
saltatory conduction /ˈsɒltətəri kənˈdʌkʃn/	In **saltatory conduction**, the impulse jumps from one gap in the myelin to the next.

Word	Example
Schwann cells	**Schwann cells** wrap around the axon to make the myelin sheath.
voltage-gated channels	**Voltage-gated channels** open when the voltage across the membrane changes.
facilitated diffusion /fəˈsɪlɪteɪtɪd dɪˈfjuːʒn/	Glucose enters red blood cells by **facilitated diffusion** through carrier proteins.
synapse /ˈsɪnæps/	A **synapse** is a small gap between two nerve cells.
cholinergic synapse /ˌkɒlɪˈnɜːdʒɪk ˈsɪnæps/	A **cholinergic synapse** uses acetylcholine to pass on the signal.
calcium ion /ˈkælsɪəm ˈaɪɒn/	A **calcium ion**, Ca^{2+}, triggers muscle contraction. Ca^{2+}
neurotransmitter /ˈnjuːrətrænsmɪtə/	A **neurotransmitter** crosses the gap between two neurones.
acetylcholine /ˈæsɪtɪlkəliːn/	**Acetylcholine** carries the signal across the gap between two neurones.
exocytosis /ˌegzɒsɪˈtəʊsɪs/	In **exocytosis**, a vesicle joins the membrane and empties its contents outside.
acetylcholinesterase	**Acetylcholinesterase** breaks down acetylcholine so the signal stops.
neuromuscular junction /ˌnjuːrəˈmʌskjʊlə ˈdʒʌŋkʃn/	At a **neuromuscular junction**, a nerve passes its signal to a muscle.
sarcolemma	The **sarcolemma** is the cell membrane of a muscle fibre.
striated muscle /ˈstraɪeɪtɪd ˈmʌsl/	**Striated muscle** looks striped under the microscope.

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sarcomere /ˈsɑːkəmɪə/	Each **sarcomere** gets shorter when the muscle contracts.
filament /ˈfɪləmənt/	Each **filament** of actin or myosin slides past the others.
T-tubule /tiː ˈtjuːbjuːl/	A **T-tubule** carries the signal deep into the muscle fibre.
sarcoplasmic reticulum /ˌsɑːkəˈplæzmɪk rɪˈtɪkjʊləm/	The **sarcoplasmic reticulum** stores calcium ions in muscle.
sliding filament model /ˈslaɪdɪŋ ˈfɪləmənt ˈmɒdl/	The **sliding filament model** explains how a muscle gets shorter.
troponin /ˈtrɒpənɪn/	Calcium binds to **troponin**, which moves tropomyosin out of the way.
tropomyosin /ˈtrɒpəmɪɒsɪn/	When the muscle rests, **tropomyosin** covers the binding sites on actin.
Venus fly trap /ˈviːnəs flaɪ træp/	A **Venus fly trap** snaps shut when an insect touches its hairs.
auxin /ˈɔːksɪn/	**Auxin** makes plant cells grow longer.
elongation /iːˌlɒnˈgeɪʃn/	Auxin causes the **elongation** of cells, so the shoot grows longer.
proton /ˈprəʊtɒn/	A **proton** has a positive charge.
cell wall /sel wɔːl/	A **cell wall** gives a plant cell its shape.
acidify /əˈsɪdɪfaɪ/	Auxin makes cells pump out hydrogen ions to **acidify** the cell wall.

Word	Example
gibberellin /ˌdʒɪbəˈrelɪn/	**Gibberellin** makes stems grow taller.
germination /ˌdʒɜːmɪˈneɪʃn/	**Germination** starts when a seed takes in water.
barley /ˈbɑːli/	**Barley** seeds store starch.
aleurone layer	Gibberellin reaches the **aleurone layer**, which then makes amylase.
endosperm	The **endosperm** is the food store in a seed.

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