Structure of a motor neuron

- **Cell body** – contains a nucleus and large amounts of R.E.R. grouped to form **Nissl's granules** (associated with the production of proteins and **neurotransmitters**).
- **Dendrites** – small extensions of the cell body that carry nerve impulses towards the cell body.
- **Axon** – a single long fibre that carries nerve impulses away from the cell body.
- Many axons are **myelinated** due to being surrounded by **Schwann cells** which protect and provide insulation:
    - The Schwann cells wrap themselves around the axon many times, building up layers of their membranes around the axon; the membranes contain a lot of **myelin** (a lipid) and form the insulating **myelin sheath** around the axon.
    - The space between adjacent Schwann cells lacks myelin, forming gaps every 2-3 μm long, called **nodes of Ranvier** which occur every 1-3 mm in humans.