Task 4 glossary

Antibody: A protein produced by the immune system that is used to identify and neutralize foreign substances in the body.

Anti-MAP2 antibody (Ab): An antibody that specifically binds to the MAP2 protein.

Differentiation: A process by which cells become specialised and assume a specific form and functions within an organism. Note that strictly speaking, this task is concerned with *transdifferentiation,* whereby an already specialised cell is "reprogrammed" to convert to a different specialised cell type.

Fibroblasts: cells found in connective tissue that are responsible for synthesising and secreting the extracellular matrix, which provides structural support to tissues, as well as tissue repair and regeneration.

GFP: Green fluorescent protein, a protein that fluoresces green when exposed to certain wavelengths of light.

Immunofluorescence (immunostaining): A technique used to visualise specific proteins within cells or tissue using fluorescent dyes (typically conjugated with antibodies to specific proteins) and microscopy.

In vitro: Performed in a laboratory setting, rather than inside a living organism.

Logistic regression: A statistical method used to analyse the relationship between a binary dependent variable and one or more independent variables.

Logit: The logarithm of the odds ratio, used in logistic regression.

MAP2: Microtubule-associated protein 2, a protein that helps to stabilize microtubules and is expressed in mature neurons.

MOI: Multiplicity of infection, a measure of how many virus particles are used to infect a cell.

NGN2: A transcription factor that is involved in the development of neurons.

Nociceptor neurons: Sensory neurons that detect and respond to painful stimuli.

NT3: Neurotrophin 3, a protein that promotes the survival and differentiation of neurons.

Outlier: A data point that is significantly different from the rest of the data.

P-value: A measure of the statistical significance of the results of a statistical test, where a small p-value indicates strong evidence against the null hypothesis (the hypothesis that is assumed to be true until proven otherwise).

Sensory neurons: Nerve cells that detect and respond to stimuli, such as temperature, pressure, and pain.

Statistical significance: A measure of the probability that an observed result occurred by chance.

Transcription factor: A type of protein that regulates gene expression by binding to specific DNA sequences and activating or repressing the transcription of specific genes.