

Integumentary Histology

EQ: Compare and contrast the different types of cells found in the integumentary system.

- I. Body Tissues
 - a. Cells are specialized for particular functions
 - b. Tissues
 - i. Groups of cells with similar structure and function
 - ii. Four primary types
 1. Epithelium
 2. Connective tissue
 3. Nervous tissue
 4. Muscle
- II. Epithelial Tissues
 - a. Found in different areas
 - i. Body coverings
 - ii. Body linings
 - iii. Glandular tissue: Glands in the body
 - b. Functions
 - i. Protection
 - ii. Absorption
 - iii. Filtration
 - iv. Secretion
 - c. Classification of Epithelium
 - i. Number of cell layers
 1. Simple – one layer
 2. Stratified – more than one layer
 - ii. Shape of cells
 1. Squamous – flattened
 2. Cuboidal – cube-shaped
 3. Columnar – column-like
 - d. Simple Epithelium
 - i. 4 types
 1. Simple Cuboidal Epithelium
 2. Simple Columnar
 3. Pseudostratified Epithelium
 4. Simple Squamous Epithelium
 - a. Single layer of flat cells
 - b. Usually forms membranes
 - c. Ex: Lines lungs and capillaries
 - e. Stratified Epithelium
 - i. 3 types
 1. Stratified Cuboidal Epithelium
 2. Transitional Epithelium
 3. Stratified Squamous Epithelium
 - a. Multiple layers of flat cells
 - b. Usually forms thick membranes
 - c. Ex: epidermis of skin, lining of esophagus
- III. Connective Tissue
 - a. Found everywhere in the body
 - b. Functions
 - i. Binds body tissues together
 - ii. Supports the body
 - iii. Provides protection
 - c. Characteristics
 - i. Variations in blood supply
 - ii. Extracellular matrix
 - d. Types of Connective Tissue
 - i. Osseous (Bone)

- ii. Hyaline Cartilage
- iii. Elastic Cartilage
- iv. Areolar Connective Tissue
- v. Fibrocartilage
- vi. Dense Regular Tissue
- vii. Reticular Connective Tissue
- viii. Blood

- ix. Adipose Tissue

- 1. Matrix is an areolar tissue in which fat globules predominate
- 2. Many cells contain large lipid deposits
- 3. Functions
 - a. Insulates the body
 - b. Protects some organs
 - c. Serves as a site of fuel storage

- x. Dense Irregular Tissue

- 1. Matrix is mostly composed of Collagen fibers
- 2. Major cell type is fibroblasts
- 3. Functions
 - a. Structural strength
 - b. Counteract tension from many directions

IV. Muscle Tissue

- a. Function is to produce movement
- b. Three types
 - i. Skeletal muscle
 - ii. Cardiac muscle
 - iii. Smooth muscle

V. Nervous Tissue

- a. Neurons and nerve support cells
- b. Function is to send impulses to other areas of the body