



Molecular Effects of Epithelial Stem Cells in Outermost Layer of Skin

Harry Annis*

Department of Respiratory Medicine, Medical University of Silesia, Katowice, Poland

DESCRIPTION

Epithelial stem cells play a central role in tissue homeostasis, wound healing, and carcinogenesis. Although corneal epithelial stem cells have been shown to reside in the limbal epithelium, the vault of the conjunctiva appears to be the major site of conjunctival epithelial stem cells. Stem cells of the corneal and conjunctival epithelium and those of the hair follicles and interfollicular epidermis have important common features. They are capable of self-regeneration. They are relatively quiet (slow cycle). They can be induced to proliferate and they are pluripotent. It is becoming clear that there is some flexibility between the keratinocytes of the cornea and hair follicles. Epithelial tissue lines the exterior of organs and blood vessels throughout the body and the interior of many visceral cavities. One example is the epidermis, the outermost layer of the skin.

Epithelial cells are a type of cell that lines the surface of the body inside and out. They are found in organs including the skin, blood vessels, and urinary tract. Epithelial tissue extends throughout the body. They cover all surfaces of the body, form body cavities and hollow organs, and are the major tissue of glands. They perform a variety of functions including protection, secretion, absorption, excretion, filtration, diffusion, and sensory uptake. Cells in epithelial tissue are densely packed with a little intercellular matrix. Tissues form envelopes and linings, so cells have a free surface that is not in contact with other cells. Opposite the free surface, the cells are connected to the underlying connective tissue by an acellular basement membrane. This membrane is a mixture of carbohydrates and proteins secreted by epithelial and connective tissue cells.

Most epithelial tissues contain stem cells. They are responsible for normal tissue regeneration or regeneration after injury. Current knowledge of their properties is limited and comes mainly from cell kinetic studies and clonal analyses. In the absence of specific markers for epithelial stem cells, researchers

have relied on a combination of cytokinetic, biochemical, and morphological criteria to detect these cells within the epithelium. Epithelial tissue is also the most common site where cancer develops. Cancer arises from epithelial tissue and accounts for up to 90% of all human cancers. The two most common types of cancer in humans arise in the epithelium of the breast and colon. Epithelial cells are the body's security shield. It is covered with epithelial cells and protects the body by providing a barrier between the internal cells and dirt and microorganisms in the environment. The most common cause of epithelial cells in the urine is urine specimen improper collection. The presence of epithelial cells in urine can indicate serious conditions such as infections, kidney disease, or tumors. Many cancers arise in epithelial tissues because these tissues are often exposed to chemicals, sunlight, and other environmental factors and often divide rapidly to replace lost cells. Most people get better initially, but the majority recovers later. Patients with early-stage cancer may choose to have only the diseased ovaries and fallopian tubes removed.

Simple cuboidal epithelium is found in glandular tissue and tubules. A simple columnar epithelium covers the stomach and intestines. Pseudostratified columnar epithelium lines part of the respiratory tract and part of the male reproductive tract. Transitional epithelium may be swollen or stretched. The glandular epithelium specializes in the production and secretion of substances. Epithelial stem cells are identified during development and are regulated by epithelial-mesenchymal interactions. Despite morphological and functional differences between epithelia, common signaling pathways appear to control epithelial stem cell maintenance, activation, lineage commitment, and differentiation. All glands are composed of epithelial cells. Epithelial cell functions include spreading, filtration, secretion, selective absorption, sprouting, and transcellular transport. The composite epithelium has a protective function.

Correspondence to: Harry Annis, Department of Respiratory Medicine, Medical University of Silesia, Katowice, Poland, E-mail: harranny@ldkjb.gmail.com

Received: 31-Oct-2022, Manuscript No. SCPM-22-19239; **Editor assigned:** 03-Nov-2022, PreQC No. SCPM-22-19239 (PQ); **Reviewed:** 16-Nov-2022, QC No. SCPM-22-19239; **Revised:** 23-Nov-2022, Manuscript No. SCPM-22-19239 (R); **Published:** 30-Nov-2022, DOI: 10.35248/2168-9431.22.11.040

Citation: Annis H (2022) Molecular Effects of Epithelial Stem Cells in Outermost Layer of Skin. Single Cell Biol. 11:040.

Copyright: © 2022 Annis H. This is an open-access article distributed under the terms of Creative Commons Attribution License, which permits permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.