

Model Brief (basic): Skin Cells

"The Armor Builder" (*Keratinocyte*)

- **Your Identity:** The Physical Shield.
- **Your Mission:** Build a waterproof, mechanical wall against the outside world. You start at the very bottom of the skin and are constantly pushed upward to the surface. As you move up, you flatten out, lose your internal parts, and fill yourself with a tough, rigid protein armor.
- **Your Architecture:** You form a vertical stack. At the bottom, you are a plump, boxy cell with a round nucleus. However, your top layer must be modeled as highly flattened, with your nucleus completely removed and your cytoplasm empty of secretory organelles (no ER or Golgi). Your membrane tracks must show heavy, interlocking "rivet points" (desmosomes) anchoring you tightly to your neighbors.

"The Pigment Broadcaster" (*Melanocyte*)

- **Your Identity:** The Umbrella Factory.
- **Your Mission:** Protect the tissue wall from dangerous solar radiation. You do not form the physical wall yourself; instead, you sit at the very bottom layer of the skin, manufacture protective pigment shields (melanin), and actively inject them into the surrounding Armor Builder cells.
- **Your Architecture:** You are a specialized factory with a unique "octopus-like" shape. Place your central cell body and nucleus at the very bottom of the tissue, packed with protein factories (ER) and shipping centers (Golgi). Crucially, your outer membrane tracks must stretch out into long, thin, branching arms that weave upward between your neighbors, with your circular cargo bubbles (vesicles) clustered at the very tips.

"The Intradermal Sentinel" (*Dendritic-Antigen Presenting Cell*)

- **Your Identity:** The Skin Security Guard.
- **Your Mission:** Patrol the front lines. You are the outermost immune outpost of the body. You do not lock arms with the wall; instead, you weave between the layers of the skin armor, using long cellular arms to feel around for invading viruses, bacteria, or fungi.
- **Your Architecture:** You are an independent entity that sits right in the middle layers of the skin. You possess a highly irregular, star-shaped layout with long, flexible membrane extensions probing the spaces between adjacent cells. Your cytoplasm requires minimal protein export machinery (no large ER networks), but must feature internal cargo bubbles (vesicles) actively capturing external targets.