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Human Dermal Fibroblasts: HDF

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Description

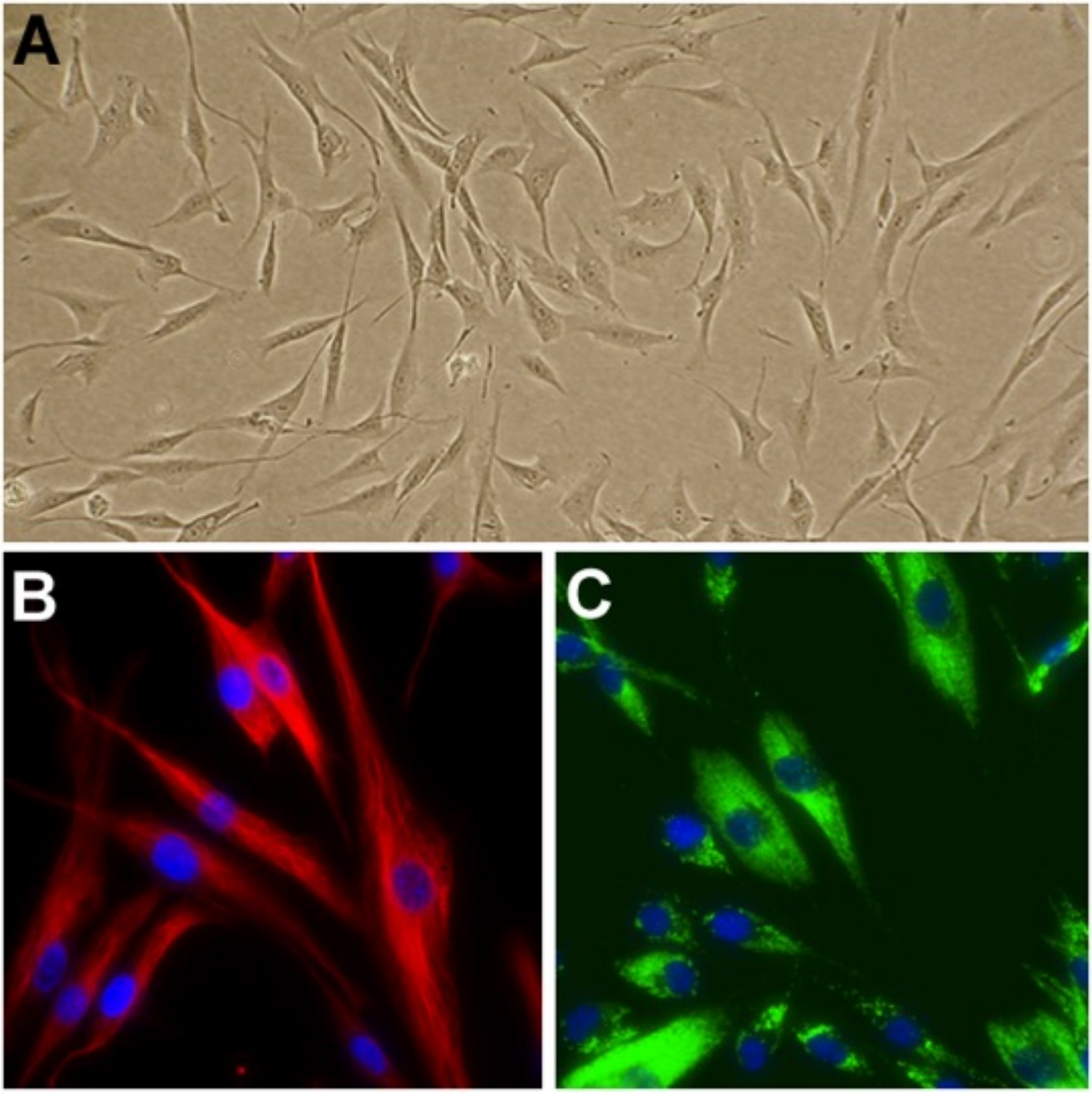
[1]**Human Dermal Fibroblasts (HDF)** are responsible for producing the extracellular matrix forming the connective tissue of the skin, and play a crucial role during wound healing. HDF from Cell Applications, Inc. provide an excellent model system to study many aspects of cell physiology, and have been utilized in dozens of research publications, particularly those related to skin biology and reprogramming/induced pluripotency studies.

iPSC generation [2]**:** HDF from Cell Applications have been instrumental to create and characterize induced pluripotent stem cells (iPSC), garnering a Nobel Prize for the technology in 2012.

Researchers have also employed our HDF to:

- Demonstrate the activation and efficiency of reprogramming, such as the transition of fibroblasts into platelets
- Identify markers that distinguish chondrocytes and synovial cells

- Establish protocols for tissue engineering, biomaterials, and synthetic collagens.
- Examine molecular gene regulation & activation, epigenetic modifications, histone ubiquitination and miRNA expression.
- Describe cell physiology and behavior, including cell adhesion, integrins, cartilage link protein and elastic fiber formation. Others rely on the cells to characterize mitochondrial metabolism, angiogenesis and tissue remodeling.
- Provide insights into disease and pathology: UVA effects, stress-induced premature senescence, skin aging, elasticity and dermal integrity, as well as tumor cell pluripotency markers.
- Develop potential clinical treatments and therapeutics: Cell survival factors and natural antioxidants like astaxanthin. Some investigators have observed approaches that promote wound healing, or protect skin from UVA-induced photo-aging.



[3]

(Click to Enlarge) **Human Dermal Fibroblasts: HDF** (A), immunolabeled for vimentin (red) (B) and stained for FSP (green) (C). Nuclei are visualized with DAPI (B, C, blue).

Details

Tissue	Normal helathy human foreskin or adult skin
QC	No bacteria, yeast, fungi, mycoplasma, virus
Bioassay	Attach, spread, proliferate in Growth Med
Cryovial	500,000 HDF (primary culture) frozen in Basal Medium w/ 10% FBS, 10% DMSO
Kit	Cryovial frozen HDF (106-05), Growth Medium (116-500), Subcltr Rgnt Kit (090K)
Proliferating	Shipped in Gr Med, 1st psg (flasks or plates)
Doublings	At least 15
Applications	Laboratory research use only (RUO). Not for human, clinical, diagnostic or veterinary use.

Instructions HDF

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