

## Human Gastric Fibroblasts

|                       |                     |                            |                        |
|-----------------------|---------------------|----------------------------|------------------------|
| <b>Catalog Number</b> | 10HU-239            | <b>Cell Number</b>         | 0.5 million cells/vial |
| <b>Species</b>        | <i>Homo sapiens</i> | <b>Storage Temperature</b> | Liquid Nitrogen        |

### Description

Fibroblasts are malleable cell types, capable of altering its function and physiology or even transforming into a new cell type, based on its location within the body. Gastric fibroblasts, isolated from the stomach, are one of the mesenchymal cells derived from the embryonic mesoderm. Human Gastric Fibroblasts are responsible for secretion of extracellular matrix in connective tissues and play a key role in ulcer wound healing [1,2]. Several studies have shown that gastric fibroblasts can regulate epithelial regeneration by influencing epithelial cell proliferation and differentiation. In contrast to their role in wound healing, human gastric fibroblasts have shown to be a key contributor in the development and progression of gastric carcinomas [1,3]. Therefore, human gastric fibroblasts are a useful model for examining the underlying mechanisms that cause gastric carcinoma and may provide novel insights for developing new cancer drug therapies.

**iXCells Biotechnologies** provides high quality Human Gastric Fibroblasts isolated from the stomach of healthy donors. Each vial contains  $\geq 0.5$  million cells cryopreserved at P1 and are delivered frozen. iXCell's Human Gastric Fibroblasts are characterized by immunofluorescence using antibodies specific to fibronectin and vimentin. These cells are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi. They can be further expanded in **Fibroblast Growth Medium** (Cat# MD-0011) for no more than 3 passages under the condition suggested by iXCells biotechnologies.

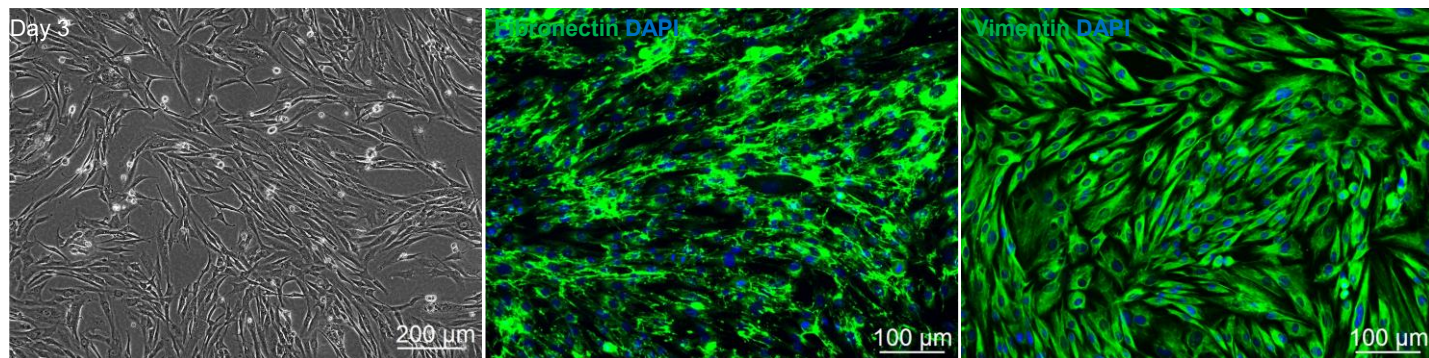


**Figure 1:** Phase contrast and ICC staining images of Human Gastric Fibroblasts using antibodies specific to Fibronectin and Vimentin (Green).

## Product Details

|                   |                                         |
|-------------------|-----------------------------------------|
| Tissue            | Human Stomach Tissue, Normal            |
| Package Size      | 0.5 million cells/vial                  |
| Passage Number    | P1                                      |
| Shipped           | Cryopreserved                           |
| Storage           | Liquid nitrogen                         |
| Growth Properties | Adherent                                |
| Media             | Fibroblast Growth Medium (Cat# MD-0011) |

## Protocols

### Thawing of Frozen Cells

1. Upon receipt of the frozen Human Gastric Fibroblasts, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for 1-2 minutes. Keep the cap out of water to minimize the risk of contamination.
3. Pipette the cells into a 15 mL conical tube with 5 mL fresh **Fibroblast Growth Medium** (Cat# MD-0011).
4. Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
5. Remove the supernatant and resuspend the cells in Fibroblast Growth Medium.
6. Culture the cell in a T75 flask at a density of 5,000-10,000 cells/cm<sup>2</sup>. Change the medium every other day until cells reach 80-90% confluence.

**Safety Precaution:** *it is highly recommended that protective gloves and clothing should be used when handling human cells.*

### Standard Culture Procedure

1. When cells reach ~80-90% confluence, remove the medium, and wash once with sterile PBS (5 mL/T75 flask).
2. Add 3 mL of 0.25% Trypsin-EDTA to the flask and incubate for 3-5 minutes at 37°C. Neutralize the Trypsin by adding 2-3 volumes of cell culture medium.
3. Centrifuge at 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
4. Seed the cells onto the new culture vessel at a density of 5,000 cells/cm<sup>2</sup>. Change the medium every other day until cells reach 80-90% confluence.

## References

- [1] Nakazawa, K., Yashiro, M., & Hirakawa, K. (2003). Keratinocyte growth factor produced by gastric fibroblasts specifically stimulates proliferation of cancer cells from scirrhus gastric carcinoma. *Cancer research*, 63(24), 8848–8852.
- [2] Piazuelo, E., Lanas, A., Jimenez, P., García-Gonzalez, A., & Esteva, F. (1998). In vitro wound repair by human gastric fibroblasts: implications for ulcer healing. *Digestive diseases and sciences*, 43(6), 1230–1240.
- [3] Ham, I. H., Lee, D., & Hur, H. (2019). Role of Cancer-Associated Fibroblast in Gastric Cancer Progression and Resistance to Treatments. *Journal of oncology*, 2019, 6270784.

## Disclaimers

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