

Product Information

Human Osteoblasts (HOb)

Catalog Number	10HU-179	Cell Number	0.5 million cells/vial
Species	<i>Homo sapiens</i>	Storage Temperature	Liquid Nitrogen

Description

Human osteoblasts are a highly specialized cell type of mesenchymal origin involved in bone formation and remodeling. In vivo, they produce the osteoid, an extracellular matrix rich in collagen type I. In the course of their natural maturation process into osteocytes, called osteogenesis, they become embedded in the bone matrix and stop proliferating.

iXCells Biotechnologies provides high quality Human Osteoblasts (HOb), which are isolated from human bone and cryopreserved at P2, with >0.5 million cells in each vial. These HOb are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi and can further expand for 10 population doublings in Osteoblast Growth Medium (Cat# MD-0054) under the condition suggested by iXCells Biotechnologies.

Product Details

Tissue	Human bone
Package Size	0.5 x 10 ⁶ cells/vial
Passage Number	P2
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Osteoblast Growth Medium (Cat# MD-0054)

Protocols

Thawing of Frozen Cells

1. Upon receipt of the frozen Human Osteoblasts (HO_b), it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. Prepare the complete Osteoblast Growth Medium (Cat# MD-0054). After adding the supplements to basal medium, use within 1 month. Do not re-freeze.
3. To thaw the cells, put the vial in 37°C water bath with gentle agitation for ~1 minute. Keep the cap out of water to minimize the risk of contamination.
4. Pipette the cells into a 15 mL conical tube with 5 mL fresh Osteoblast Growth Medium (Cat# MD-0054).
5. Centrifuge at 1,000 rpm (~220 g) for 5 minutes under room temperature.
6. Remove the supernatant and resuspend the cells in fresh Osteoblast Growth Medium.
7. Culture the cell in the culture vessel at the density of 5×10^3 cells/cm².
8. Change the medium every other day until the cells reach 80% confluency.

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

Standard Culture Procedure

1. Human Osteoblasts (HO_b) can be cultured in Osteoblast Growth Medium (Cat# MD-0054).
2. Subculture the cells when they are 80% confluent and contain many mitotic figures. Remove the medium, and wash once with sterile PBS.
3. Add 3 mL of 0.25% Trypsin-EDTA to the flask and incubate for 3-5 minutes at 37°C. Neutralize the enzyme by adding 2-3 volumes of cell culture medium.
4. Centrifuge 1,000 rpm (~220 g) for 5 minutes and resuspend the cells in desired volume of medium.
5. Seed the cells in the new culture vessels at 5×10^3 cells/cm². Change the medium every other day.

Disclaimers

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