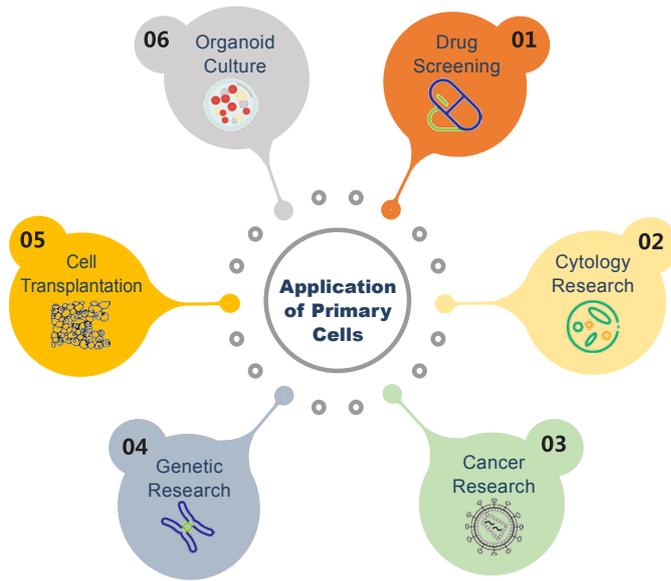
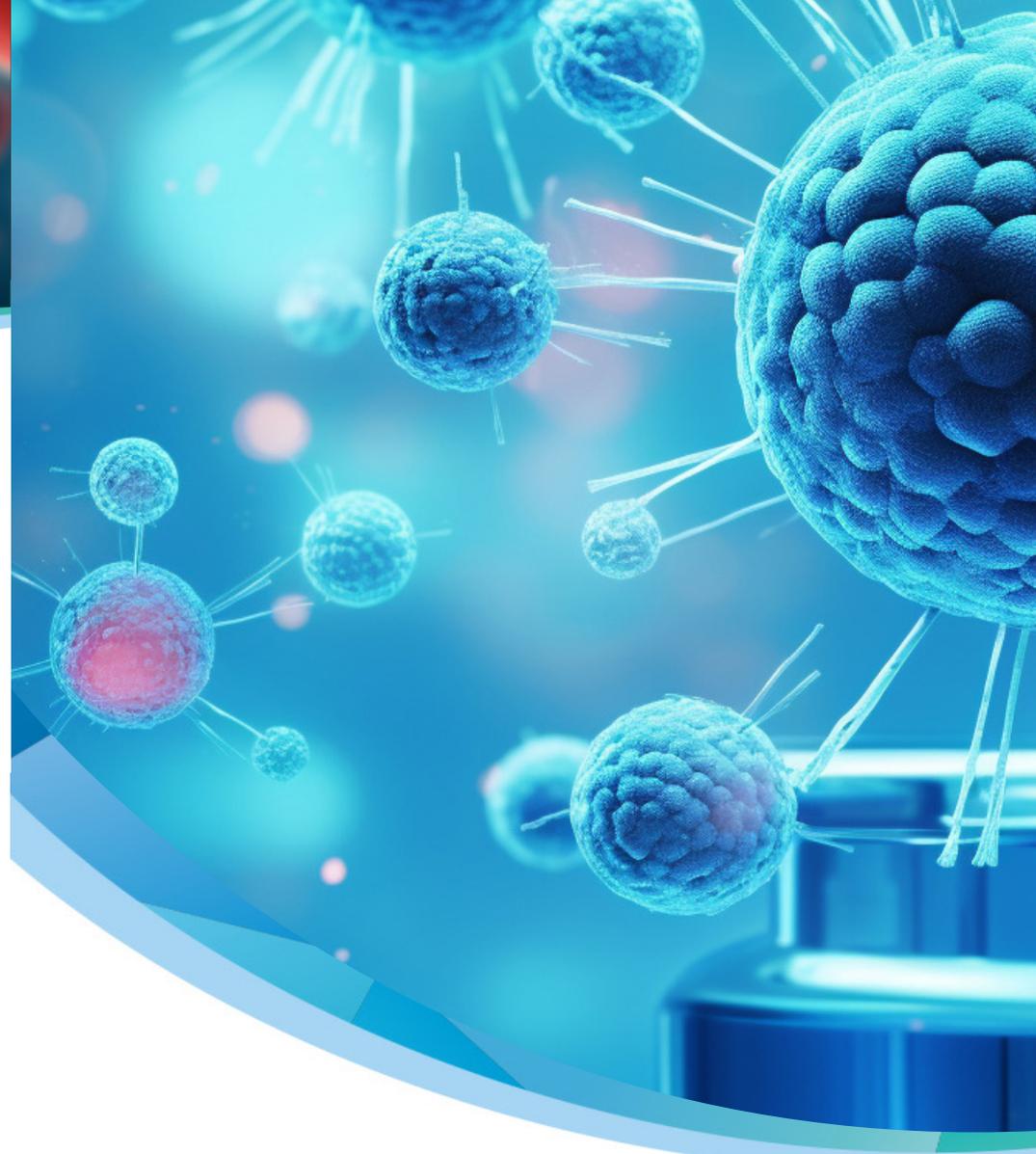


Primary Culture Cell refers to cells that are cultured directly after being obtained from the organism. Primary cells retain key characteristics of original cells, are not only widely used in basic research on molecules, cell biology and biomedicine, such as proteomics, genomics and genetics research, but also used in today's popular biomedical industries such as drug screening, drug metabolism, toxicology research and cancer drug research – playing an irreplaceable role in the field of biomedicine.

IPHASE as a leader in providing biological reagents for *in vitro* research on drugs, maintains a long-term, stable cooperation with the US organ procure organization (OPO). This relationship thus allows IPHASE to obtain a variety of fresh, healthy, compliant human tissue in which has detailed individual health information. To this date, IPHASE has successfully isolated/extracted primary cells, meeting the domestic demand on various human primary cells!



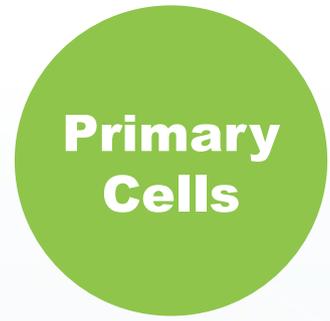
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Human Primary Cells Brochure

—The Bridge between Technology and Life

- Prediction *in vivo*
- Multiple Applications
- Clinical Service
- Legal Compliance



Primary Hepatocyte

Primary hepatocytes play a vital role in drug research and development, toxicology research, liver disease and regenerative medicine; it especially plays an irreplaceable role in drug metabolism, and drug-drug interaction(DDI) research.

- Suspension/adherent cells
- Sinus endothelial cells
- Stellate cells
- Inner bile duct epithelial cells
- Kupffer cells

Primary Enterocytes

The intestine is important for digestion and absorption in the human body and is also the largest immune organ. Its primary cells can be used in *in vitro* research experiments such as homeostasis maintenance, epithelial growth and repair, immune response, inflammation, fibrosis, tumorigenesis, and cancer.

- **Epithelial cells:** ascending colon, descending colon, duodenum, jejunum, transverse colon, intestinal bone
- **Myofibroblasts:** ascending colon, descending colon, duodenum, jejunum, transverse colon, intestinal iliac bone

Primary Lung Cells

The lungs are very important core respiratory organ for gas exchange between the body and the outside world. Hence, it can be used for *in vitro* research on conditions such as asthma, airway inflammation wound healing, pulmonary fibrosis, chronic obstructive pulmonary disease, cancer, toxicology and other diseases.

- Tracheal epithelial cells
- Bronchial epithelial cells
- Small airway epithelial cells

Immune Cells

Immune cells are part of the complex immune system, which protects the body from pathogen invasion. Immune cells are widely applied in physiologically relevant research projects: including toxicity screening, transplantation and transplant rejection, inflammation and allergy, vaccines, drug development, and cancer immunology.

- **Mononuclear cells:** peripheral blood, bone marrow, umbilical cord blood, spleen
- **Red blood cells**
- **Immune cell subsets:** T cells, B cells, NK cells, monocytes, etc

Primary Kidney Cells

The kidney is an important organ in the body, involved in removing metabolites, specific wastes and toxins from the body, as well as reabsorbing and retaining water and other useful substances to promote metabolism. For research purpose, it can be used for *in vitro* studies on permeation/excretion, renal fibrosis, inflammation and can be applied to drug screening/development in hypertension, diabetes, oncology, autoimmune disease and toxicology screening.

- Cortical cells
- Renal mesangial cells
- Proximal tubule cells
- Renal podocytes
- Glomerular endothelial cells

※ Concurrently, to ensure the stability of primary cells, IPHASE also provides various primary cell-specific media.