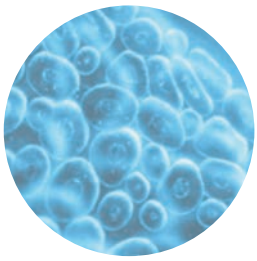
RWD | MIDSCI™

Gentle Tissue Enzymatic Digestion Kit (Series) Product Brochure

RWD Life Science
www.rwdstco. com

Introduction



Cell models can be divided into cell lines and primary cell models. For a long time, scientists have relied heavily on immortalized cell lines for various studies. This is because cell lines are generally easier to obtain, with many commercially available. Compared to cell lines, primary cells most closely resemble and reflect in vivo growth characteristics, making them suitable for experiments such as drug sensitivity tests and cell differentiation studies.

The critical first step in primary cell research is preparing a high-quality single-cell suspension. Tissue dissociation into single cells can be challenging due to factors such as tissue type, species, sample age, processing environment, and other variables, requiring tailored dissociation protocols to achieve optimal results.

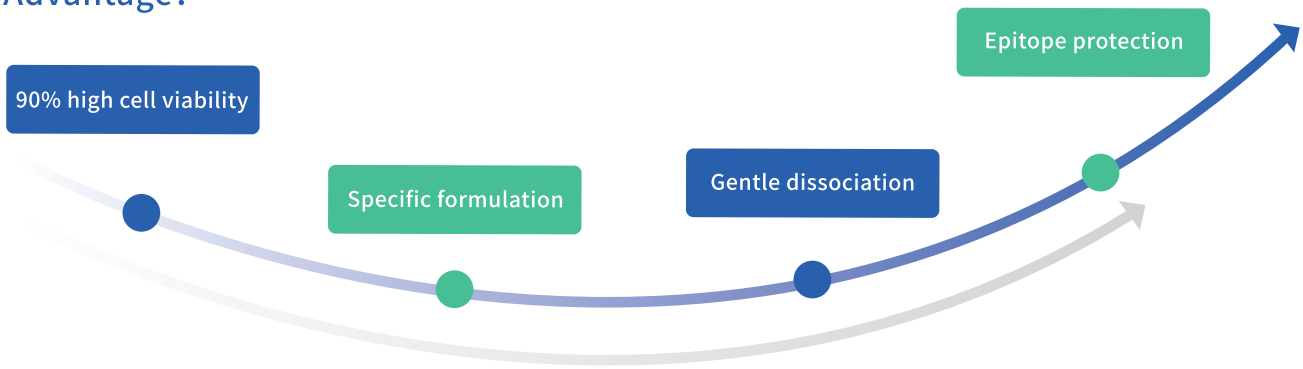
Common methods of tissue dissociation:

Enzyme-free Mechanical cutting

Enzyme digestion & Mechanical cutting

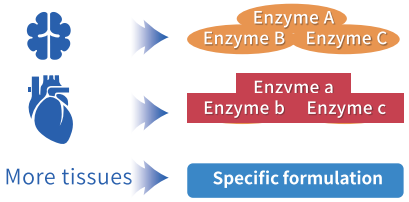
Combined with enzymatic digestion, the cell yield obtained is higher and more adaptable to different types of tissue dissociation compared to simple mechanical methods.

Advantage:

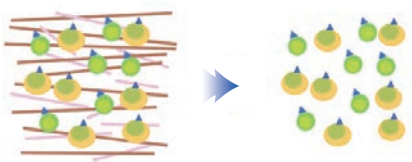


Easy-to-follow procedure

Specific formulation



Target extracellular matrix



Tissue-specific optimization of composite enzymatic formulation, targeting extracellular matrix , aims to preserve cell structure integrity as much as possible, ensuring the acquisition of single-cell suspension with high activity, high yield, and surface antigen protection.

Note: * It can be operated in conjunction with the RWD single-cell suspension dissociator, or manual dissociation.

Order Information

Tissue Enzymatic Digestion Kit

- Tumor
  - High Activity Tumor Tissue Enzymatic Digestion Kit (Mouse)
  - High Activity Tumor Tissue Enzymatic Digestion Kit (Human)
  - High Activity Brain Tumor Enzymatic Digestion Kit
- Nerve
  - High Activity Neonatal Brain Enzymatic Digestion Kit (Mouse and Rat)
  - High Activity Adult Brain Enzymatic Digestion Kit (Mouse and Rat)
- General
  - High Activity General Tissue Enzymatic Digestion Kit
- Intestine Skin Adipose Muscle
  - High Activity Intestine Tissue Enzymatic Digestion Kit (Mouse)
  - High Activity Whole Skin Enzymatic Digestion Kit (Mouse)
  - High Activity Adipose Tissue Enzymatic Digestion Kit (Mouse and Rat)
  - High Activity Muscle Tissue Enzymatic Digestion Kit (Mouse and Rat)
- Hepatocyte
  - High Activity Hepatocyte Extraction Kit (Mouse and Rat)
- Umbilical Cord
  - High Activity Umbilical Cord Enzymatic Digestion Kit (Human)
- FFPE
  - High Activity FFPE Tissue Enzymatic Digestion Kit
- Nuclei
  - High Efficiency Nuclei Extraction Kit

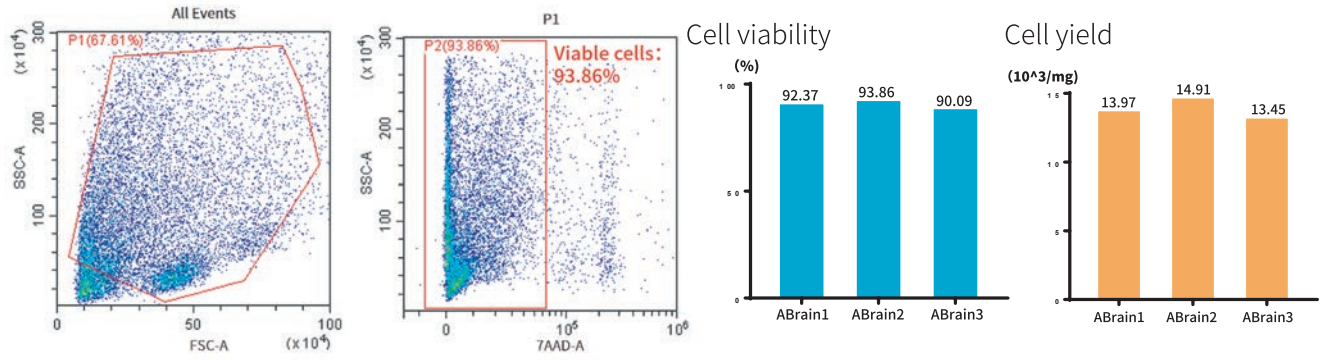
Cat No.	Product name	Type of tissues	Type of cells	Specifications
DHTE-5001	High Activity Tumor Tissue Enzymatic Digestion Kit (Mouse)	Mouse tumor	Tumor cells and immune cells	50T
DHNBE-5002	High Activity Neonatal Brain Enzymatic Digestion Kit (Mouse and Rat)	P < 7 brain tissues of mouse and rat	Neural stem cells (NSCs), astrocytes, oligodendrocytes, microglia, endothelial cells, and neural progenitor cells (NPCs)	50T
DHABE-5003	High Activity Adult Brain Enzymatic Digestion Kit (Mouse and Rat)	P≥7 brain tissues of mouse and rat	Astrocytes, oligodendrocytes, microglia, endothelial cells, and neurons	50T
DHGT-5004	High Activity General Tissue Enzymatic Digestion Kit	Heart, liver, spleen, lung, kidney,etc.	Non-parenchymal cells, including immune cells, endothelial cells, macrophages, monocytes, epithelial cells, and fibroblasts	50T
DHTEH-2505	High Activity Tumor Tissue Enzymatic Digestion Kit (Human)	Human tumor	Tumor cells and immune cells	25T
DHDR-5006	High Efficiency Debris Removal Kit	Brain, heart, liver, etc.	Enables efficient debris removal across all routine tissue types.	50T
DHIE-5007	High Activity Intestine Tissue Enzymatic Digestion Kit (Mouse)	Mouse intestinal lamina propria tissue	Mouse lamina propria immune cells	50T
DHBTE-2508	High Activity Brain Tumor Enzymatic Digestion Kit	Human and mouse brain tumor	Tumor cells and immune cells	50T
DHWSE-2509	High Activity Whole Skin Enzymatic Digestion Kit (Mouse)	Mouse skin	Immue cells, Macrophage, fibroblasts, Langerhans cells	25T
DHAE-5010	High Activity Adipose Tissue Enzymatic Digestion Kit (Mouse and Rat)	Mouse and rat adipose	Stromal vascular fraction (SVF), adipose-derived mesenchymal stem cells (ADSCs), endothelial cells	25T
DHME-5012	High Activity Muscle Tissue Enzymatic Digestion Kit (Mouse and Rat)	Mouse and rat muscle	Myoblasts, muscle satellite cells	50T
DHNE-2511	High Efficiency Nuclei Extraction Kit	Mammalian tissue	High-quality mononuclear cell suspensions can be reliably obtained from routine tissue specimens through optimized dissociation protocols.	25T
DHHE-2515	High Activity Hepatocyte Extraction Kit (Mouse and Rat)	Mouse and rat liver	Hepatocytes, hepatic stellate cells, etc.	15T
DHUTE-2516	High Activity Umbilical Cord Enzymatic Digestion Kit (Human)	Human umbilical cord	Mesenchymal stem cells (MSCs), immune cells, and endothelial cells	25T

Feature Showcase:

High-viability, high-yield, and highly homogeneous single-cell suspensions were obtained, demon-strating excellent quality for downstream applications.

Cell viability analysis by flow cytometry

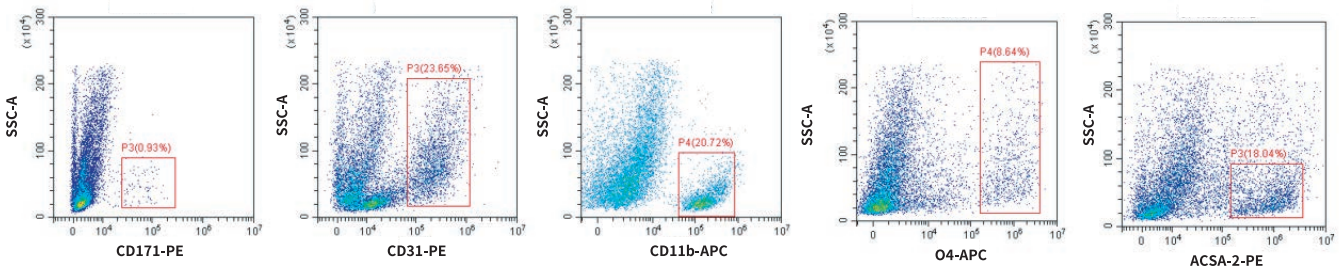
Single-cell suspension from adult mouse whole brain tissue was prepared, with cell viability >90% as determined by 7AAD staining assay.



Preservation of surface antigens

Flow cytometry analysis of neural cell populations

Single-cell suspension from adult mouse whole brain was fractionated into distinct neural subpopulations using surface antigen markers (CD171/CD31/CD11b/O4/ACSA-2) via fluorescence-activated cell sorting (FACS).



The prepared single-cell suspension meets all requirements for downstream primary cell culture applications.

Observation of cell morphology/status by optical microscopy

The single-cell suspension isolated from adult mouse whole brain exhibited excellent culture viability, with adherent cells still observable on day 7 of in vitro culture.