



HyClone™ cell culture reagents

HyQTase™ cell detachment solution

HyClone HyQTase cell detachment solution is an ultrafiltered, non-mammalian formulation that provides a gentle replacement for trypsin/EDTA (Fig 1). The product is used for the detachment and dissociation of anchorage-dependent cells from surfaces, and in suspension cell culture to reduce clumping in preparation for counting.

Key features of HyQTase solution include

- Easy to use, requires no serum or trypsin inhibitor to inactivate
- Contains no mammalian or bacterially derived proteins to prevent introducing adventitious agents into cell culture
- Gentle cell detachments prevents cell damage
- High plating efficiency, cell viability, and cell yield
- Excellent cell morphology (qualitative) and growth characteristics

Specifications

HyQTase solution is provided frozen as a 1× sterile and ready-to-use liquid.

Formulation

HyQTase solution has the following formulation: 1× enzymes in DPBS (8.0 g/L NaCl, 0.2 g/L KCl, 0.2 g/L KH_2PO_4 -4Na and 1.15 g/L Na_2HPO_4) and 0.5 mM EDTA-2Na.

Storage and stability

HyQTase solution is stable when stored at -20°C or below. Refer to lot expiration date on the bottle label. Recommended storage upon receipt is -20°C or below. After thawing, HyQTase solution may be stored for up to 2 months at 2°C to 8°C .

Note! Do not store at room temperature.

General recommendations

Replacing trypsin/EDTA

HyQTase solution can replace trypsin/EDTA for the detachment and dissociation of cells. The volumes used and methods employed will not need modification when replacing trypsin/EDTA with HyQTase solution.



Fig 1. HyQTase cell detachments solution.

HyQTase solution is particularly useful for detaching cells grown in cell culture media that are serum-free, protein-free, and chemically defined.

Functional assays

HyQTase solution can be used in functional assays such as analysis of cell surface markers, flow cytometry, quiescence assays by serum starvation, cell proliferation, transfection assays, cell haptotaxis, neural crest migration assays, and tumor cell migration assays.

Tissue disaggregation

Tissue disaggregation can be performed using HyQTase solution, however, due to its unique enzymes; tissue disaggregation should not be performed at 37°C . Tissue disaggregation is best carried out between 4°C and 25°C . The incubation time should be optimized depending on the tissue and incubation temperature. As a guide, incubation at 4°C should be conducted overnight for 12 to 16 hours or at 25°C for 1 to 2 hours. The tissue should be carefully washed in HyClone DPBS (SH30028) before adding HyQTase solution.

Cell types

Cell types tested with HyQTase solution are

- Primary human smooth muscle cells
- Primary human endothelial cells
- Primary chick neuronal cells
- Murine bone marrow stem cells
- 3T3
- COS
- Vero
- L929
- Human embryonic kidney 293
- Primary human fibroblasts
- M24
- A375 metastatic melanoma
- U251 & D54 human gliomas
- HeLa
- NT2
- MG63 human osteosarcoma
- Hepatocyte progenitor cells
- HT 1080 fibrosarcoma
- CHO-K1
- BHK21
- PRX 129/X1 murine embryonic stem cells
- PRX B6N murine embryonic stem cells

Deactivation

The HyQTase detachment solution can be deactivated by incubation at 37°C for 1 hour.

Instructions for use

1. Thaw HyQTase solution at 2°C to 8°C or at room temperature.
2. Wash the cells to be detached with sterile DPBS.
3. Add undiluted HyQTase solution to culture vessel at 1 mL per 25 cm² of surface area.
4. Incubate at room temperature for 5 to 10 min or at 37°C for faster cell detachment.
5. Count the cells and passage as usual. In most cases, no additional wash or neutralization steps are required.

Note! While it is common to prewarm trypsin to 37°C prior to use with cells, this prewarming is not recommended for HyQTase solution. Long term (more than 20 min) exposure to 37°C will render HyQTase solution ineffective at cell dissociation.

Quality control

Each lot of HyQTase solution is tested for sterility, endotoxin, pH, osmolality, and for the activity of HyQTase enzymes in solution.

Ordering information

Product	Size	Product code
HyQTase solution	100 mL	SV30030.01