



Thermo Scientific
BioLite Cell Culture Products

When value is important for your
cell culture applications

Cell culture treated • Sterile • Non-pyrogenic
USP Class VI and non-cytotoxic



Thermo Scientific BioLite Cell Culture Products

Thermo Scientific™ BioLite Cell Culture products are designed for your general cell culture research. This new product line includes a limited range of sterile dishes from 35 mm to 150 mm, 6- to 96-well dishes and flasks covering surface areas from 25 cm² to 175 cm². BioLite products offer a cell-adherent surface and are non-pyrogenic and non-cytotoxic.

BioLite Dishes, Cell Culture Treated

Polystyrene. With lid and airvent. Sterile.

| Cat. No. | 11810765 | 11844335 | 11815275 | 11804125 |
|-------------------------------|------------|-------------|----------|--------------|
| External Dimensions, mm | 35 x 10 | 60 x 15 | 100 x 20 | 150 x 20 |
| Internal Dimensions, mm | 34.3 x 9.3 | 52.7 x 12.6 | 88 x 16 | 138.5 x 15.4 |
| Culture area, cm ² | 9.4 | 21.5 | 60.8 | 148 |
| Suggested working volume, ml | 3 | 5 | 12,5 | 35 |
| Units per pack/case | 10/500 | 10/500 | 10/200 | 10/120 |

BioLite MultiDishes, Cell Culture Treated

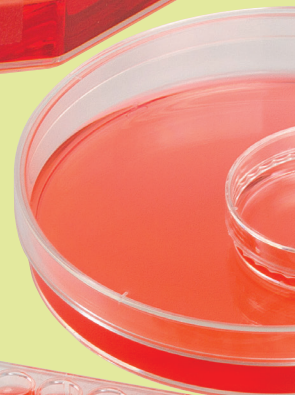
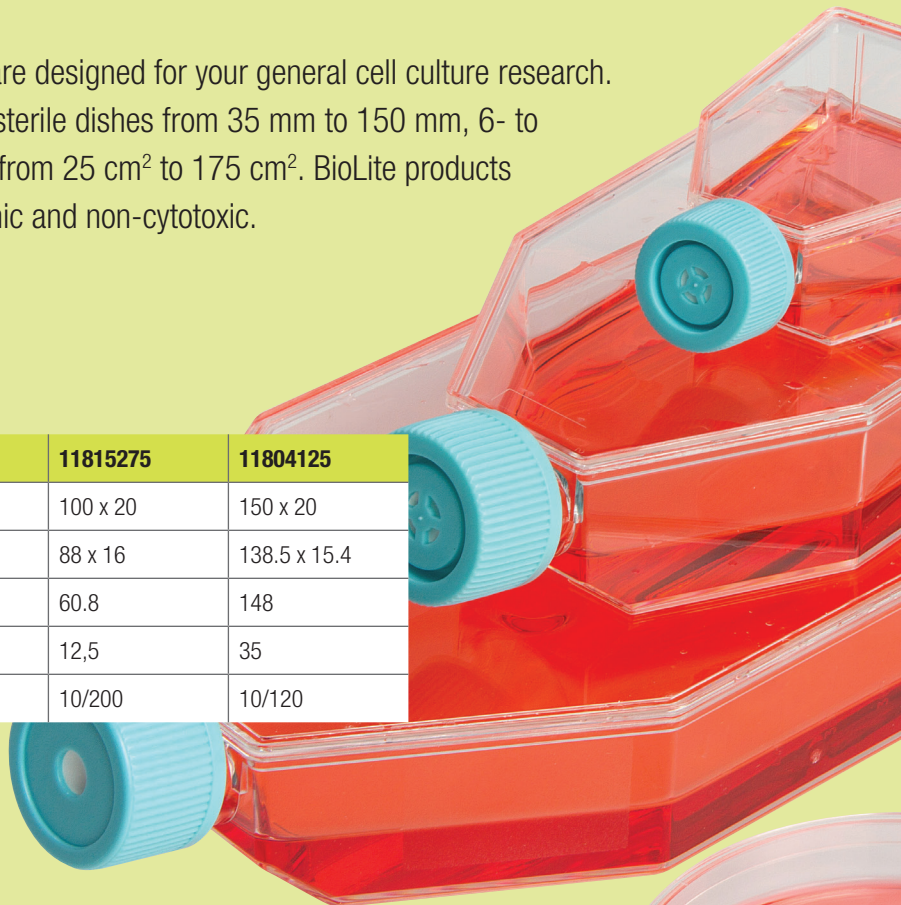
Polystyrene, flat bottom well. With lid. Sterile.

| Cat. No. | 11825275 | 11889684 | 130186 | 11820765 | 11835275 |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Number of Wells | 6 | 12 | 24 | 48 | 96 |
| Well Dimension, mm | 35 | 22,1 | 15,6 | 9,75 | 6,4 |
| External dimensions, mm | 85.4 x 127.6 | 85.4 x 127.6 | 85.4 x 127.6 | 85.4 x 127.6 | 85.4 x 127.6 |
| Culture area, cm ² /well | 9.6 | 3.8 | 1.9 | 0.75 | 0.32 |
| Suggested working vol/well, ml | 3.0 | 2.0 | 1.0 | 0.500 | 0.200 |
| Units per pack/case | 1/50 | 1/50 | 1/50 | 1/50 | 1/50 |

BioLite Flasks, Cell Culture Treated

Polystyrene. HPDE cap. Sterile.

| Cat. No. | 11830765 | 11849594 | 11884235 | 11840765 | 11850845 | 11845275 |
|-------------------------------|----------|-----------|----------|-----------|----------|-----------|
| Culture area, cm ² | 25 | 25 | 75 | 75 | 175 | 175 |
| Cap Type | Vented | Plug Seal | Vented | Plug Seal | Vented | Plug Seal |
| Suggested working volume, ml | 7 | 7 | 25 | 25 | 50 | 50 |
| Units per pack/case | 5/200 | 5/200 | 5/100 | 5/100 | 5/40 | 5/40 |



Technical Data

Cell Growth on BioLite Cell Culture Products

Introduction

Cell culture surfaces in flask, dish and plate formats are produced by modifying a polymer surface to enhance cell adhesion. The parameters of modification may vary from manufacturer to manufacturer, which sometimes results in cell line adherence differences.

Since performance for any given cell line can vary between cell culture products from different manufacturers, it is important to know how your cell line might perform when using a new product. In this study, the performance of HEK and VERO cells compares the new BioLite cell culture products to similar products.

Materials and Methods

Cell lines

HEK: Human kidney, transferring (ATCC CRL-1573)

VERO: Monkey kidney, (ATCC CCL-81)

Media

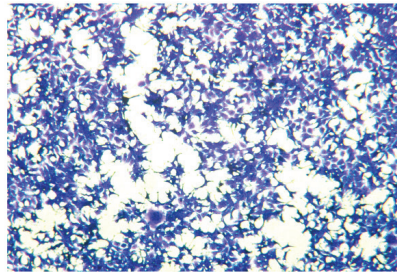
- Thermo Scientific HyClone Media, #SH30024.02; MEM/EBSS with 2 mM L-glutamine
- Non-Essential Amino acids solution (NEAA) (100 x) Sodium pyruvate, 100 mM solution
- Antibiotic/Antimycotic solution: Sigma #A9909 (100 ml) Fetal bovine serum (FBS) 10%

Cell Culture Evaluation

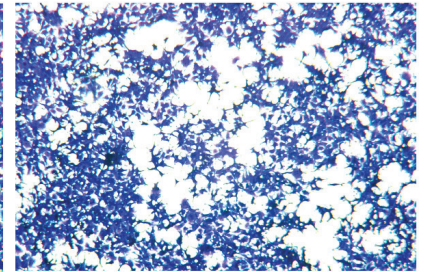
For each flask brand or type, a total of six flasks were evaluated. Five flasks were used for cell enumeration and one was stained and imaged. Cells were seeded at the same density ($\sim 30,000$ cell/cm² and $\sim 10,000$ cells/cm² for HEK and VERO cells, respectively) and incubated for three days at 37°C and 5% CO₂. After three days the cell yield was carefully determined by harvesting all the cells with trypsin, and counting the cells using a Nucleocounter (New Brunswick Scientific). The difference in cell count from the beginning to the end of the experiment was used to calculate a doubling time for each manufacturer's products. The sixth flask was stained with crystal violet and imaged.

Results are pictured at right. Further analysis is provided on the next page.

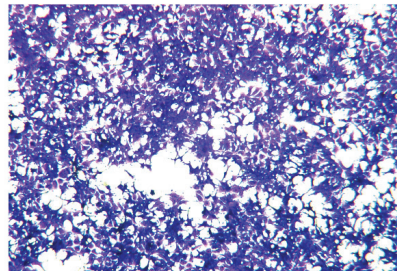
Morphology of HEK Cells (Crystal Violet Stain)



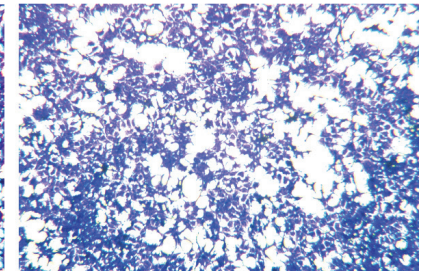
BioLite Flask



Competitor 1

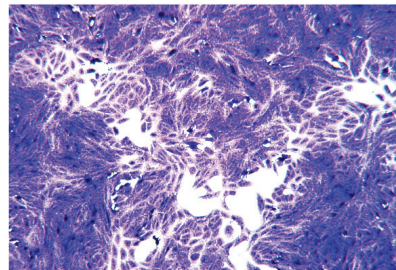


Competitor 2

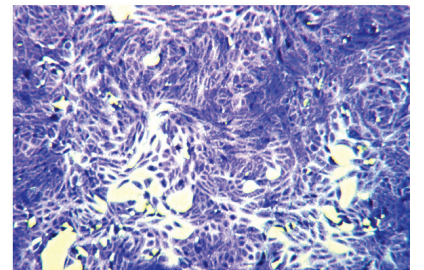


Competitor 3

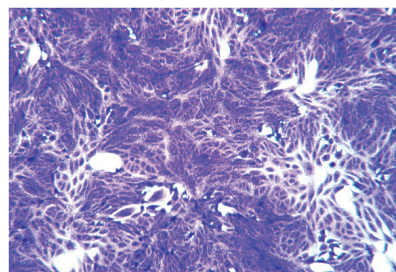
Morphology of VERO Cells (Crystal Violet Stain)



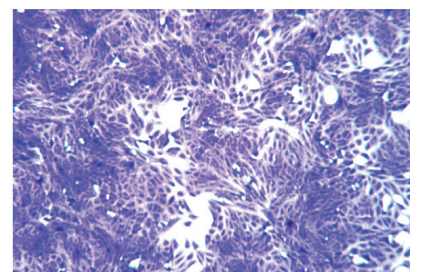
BioLite Flask



Competitor 1



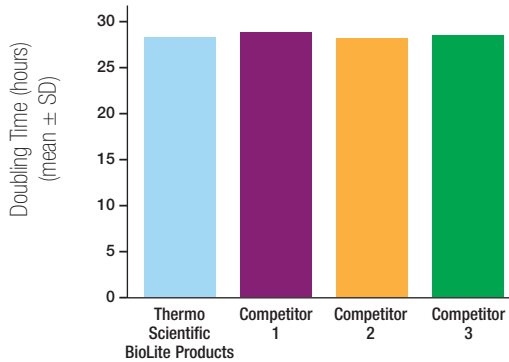
Competitor 2



Competitor 3

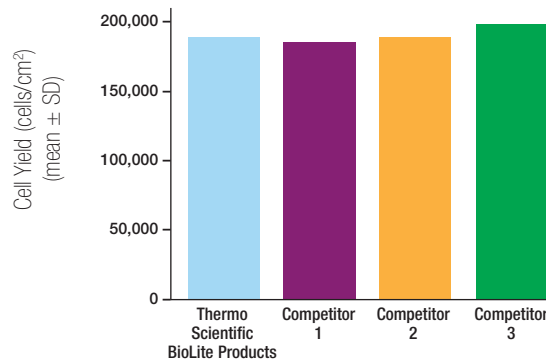
Cell Enumeration

Doubling Time of HEK Cells on Surfaces from Various Manufacturers



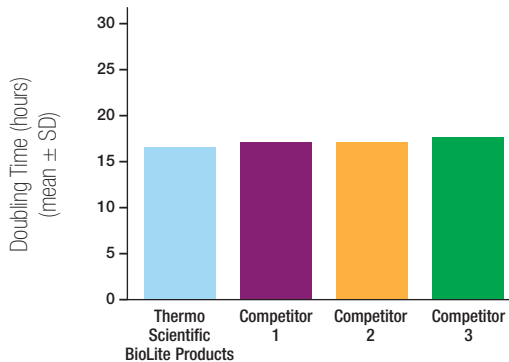
Cell Yield

Cell Yield of HEK Cells on Surfaces from Various Manufacturers



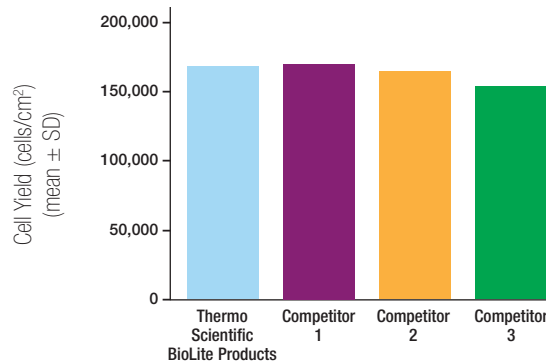
Cell Enumeration

Doubling Time of VERO Cells on Surfaces from Various Manufacturers



Cell Yield

Cell Yield of VERO Cells on Surfaces from Various Manufacturers



Conclusions

In the study conducted, the performance of Thermo Scientific BioLite products was compared to those of other manufacturers for growth of HEK (293) and VERO cells. Performance of BioLite products was indistinguishable from the other brands both in terms of doubling time and cell morphology for both HEK and VERO cells. The results suggest that comparable results may be obtained when switching from any of the surfaces compared above to the BioLite products.

Surface modifications meant to improve cell adhesion produce slightly different surfaces from one manufacturer to the next. Cell adhesion, morphology, and growth rate may vary, often significantly, when switching from one surface to another. Because it isn't possible to predict the behavior of any given cell line on a new surface, this must be validated by experimentation.

Visit www.thermoscientific.com/biolite for additional information



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