

## Scalable production of iPS spheroid culture

The new **ABLE 3D Magnetic Stir and Disposable Bioreactor System** from **AMSBIO** provides cost-effective, lab-scale production of **induced pluripotent stem (iPS) cell spheroid culture**.

### Induced pluripotent stem cells

grown in 3D spheroid suspension culture closely resemble embryoid body structures naturally formed by embryonic stem cells. Using an ABLE 3D Bioreactor offers researchers an easy-to-use and affordable tool that provides excellent yield, viability, and high efficiency for the expansion of human iPS stem cells and differentiation



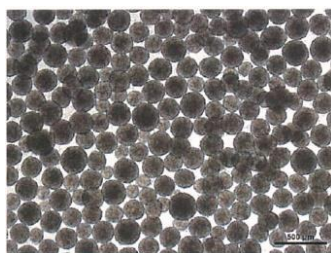
**Image captions:** Six ABLE Bioreactor systems in stir base together with controller

### Made of high-density polycarbonate

for biocompatibility with iPS stem cell cultivation, the Bioreactor comes ready-to-use for non-adherent cell growth, eliminating the need for high-priced extracellular matrix (ECM) proteins for coating plasticware. A delta-wing-shaped impeller with a magnet on each blade, located within the bioreactor, provides low shear agitation by laminar flow, encouraging the formation and growth of uniform 200-300  $\mu\text{m}$  spheroid cell clusters.

### The bioreactor system

uses disposable vessels for cell culturing or production of up to  $5 \times 10^7$  cells per 30 mL vessel, equivalent to cell yield from ten 10 cm culture dishes or ten 6-well plates.



**Image captions :** Human iPS cells (cell line 1231A3) grown in StemFit™ medium demonstrating the consistency of spheroid sizes after 4 days cultivation in the ABLE 3D Disposable Bioreactor at 40 rpm.

**The ABLE 3D bioreactor**

seamlessly integrates with StemFit media, a chemically defined stem cell culture media proven to effectively maintain induced pluripotent stem cells (iPSCs) and embryonic stem cells (ESCs) under feeder-free conditions. Human iPSCs, when maintained on iMatrix-511-coated plates along with StemFit media, can be effortlessly harvested and dissociated into single cells. These single cells are then ready for a smooth transition into the ABLE 3D Bioreactor system for large scale and efficient iPSC spheroid culture.

**For further information**

please visit <https://www.amsbio.com/able-bioreactor/> or contact AMSBIO on +31-72-8080244 / +44-1235-828200 / +1-617-945-5033 / [info@amsbio.com](mailto:info@amsbio.com).

**AMS Biotechnology (AMSBIO)**

Founded in 1987, AMS Biotechnology (AMSBIO) is recognized today as a leading transatlantic company contributing to the acceleration of discovery through the provision of cutting-edge life science technology, products, and services for R&D in the medical, nutrition, cosmetics, and energy industries. AMSBIO has in-depth expertise in extracellular matrices to provide elegant solutions for studying cell motility, migration, invasion, and proliferation. This expertise in cell culture and the ECM allows AMSBIO to partner with clients in tailoring cell systems to enhance organoid and spheroid screening outcomes using a variety of 3D culture systems, including organ-on-a-chip microfluidics. For drug discovery research, AMSBIO offers assays, recombinant proteins, and cell lines. Drawing upon a huge and comprehensive biorepository, AMSBIO is widely recognized as a leading provider of high-quality tissue specimens (including custom procurement) from both human and animal tissues. The company provides unique clinical grade products for stem cells and cell therapy applications. This includes GMP cryopreservation technology, and high-quality solutions for viral delivery.

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