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Mitsui Chemicals, Inc.

Mitsui Chemicals, FullStem Launch Joint Development of High-Performance Nonwovens for Use in High-Density, Large-Scale Stem Cell Culture

Mitsui Chemicals, Inc. (Tokyo: 4183; President & CEO: HASHIMOTO Osamu) today announced that it has launched a project with FullStem Co. Ltd. (Naha, Okinawa; President: CHIBA Shunmei) for the joint development of high-performance nonwovens to be used in the high-density, large-scale culture of stem cells.

Named Achieva-CS, the high-density, large-scale stem cell culture device developed by FullStem uses nonwovens as scaffolding to enable the large-scale culture of stem cells. By taking the expertise that Mitsui Chemicals has cultivated for polymer materials and nonwovens forming, and combining this with FullStem's technology and devices for high-density, large-scale stem cell culture, the companies intend to jointly develop next-generation platform technology for large-scale stem cell culture, contributing in turn to the field of regenerative medicine.

FullStem's efforts toward high-density, large-scale stem cell culture will be covered at the 21st Congress of the Japanese Society for Regenerative Medicine[*1], which is set to be held on March 19.

Achieva-CS high-density, large-scale stem cell culture device

◆ About FullStem (http://fullstem.jp/english.html):

FullStem was established in August 2016 by CHIBA Shunmei, a brain surgeon and a certified practitioner of regenerative medicine. The company has since developed Achieva-CS: a high-density, large-scale stem cell culture device that employs a proprietary method for high-density, three-dimensional, large-scale culture and recovery. FullStem's concept here is to have a device that anyone can use safely and easily, and the company is aiming now to commercialize its technology for use in large-scale stem cell culture.

◆ Features of Achieva-CS (http://fullstem.jp/english.html):

Achieva-CS uses nonwovens as scaffolding for stem cell culture to enable a more compact, high-density culture area. This then facilitates the large-scale culture of stem cells under conditions that are inexpensive while being close to those of an in vivo environment. FullStem's patented technology has also made Achieva-CS the first three-dimensional, automatic, large-scale culture device to succeed in the efficient recovery of cells buried in nonwovens – something that has typically been seen as impossible.

◆ Mitsui Chemicals' strengths:

Mitsui Chemicals has for many years offered both spunbond and meltblown nonwovens for use in the sanitary materials and industrial materials sectors. Now, the company intends to take the materials technology and formation technology it has cultivated through its nonwovens development so far and use these to work with FullStem on developing high-performance nonwovens suited to high-density, large-scale stem cell culture.

■ Overview of both companies

	FullStem Co. Ltd.	Mitsui Chemicals, Inc.
Establishment	August 2016	October 1997
Location	2-1-15 Ameku, Naha, Okinawa	1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo
Capital	45 million yen	125.33 billion yen
Business	Development and commercialization of high-density, large-scale stem cell culture technology	Mobility Business, Health Care Business, Food & Packaging Business, New Business, Basic Materials Business
Employees	6	17,979 (consolidated)

Press release from FullStem: http://fullstem.jp/posts/news13.html

References:
*1: https://www.congre.co.jp/jsrm2022/en/index.html