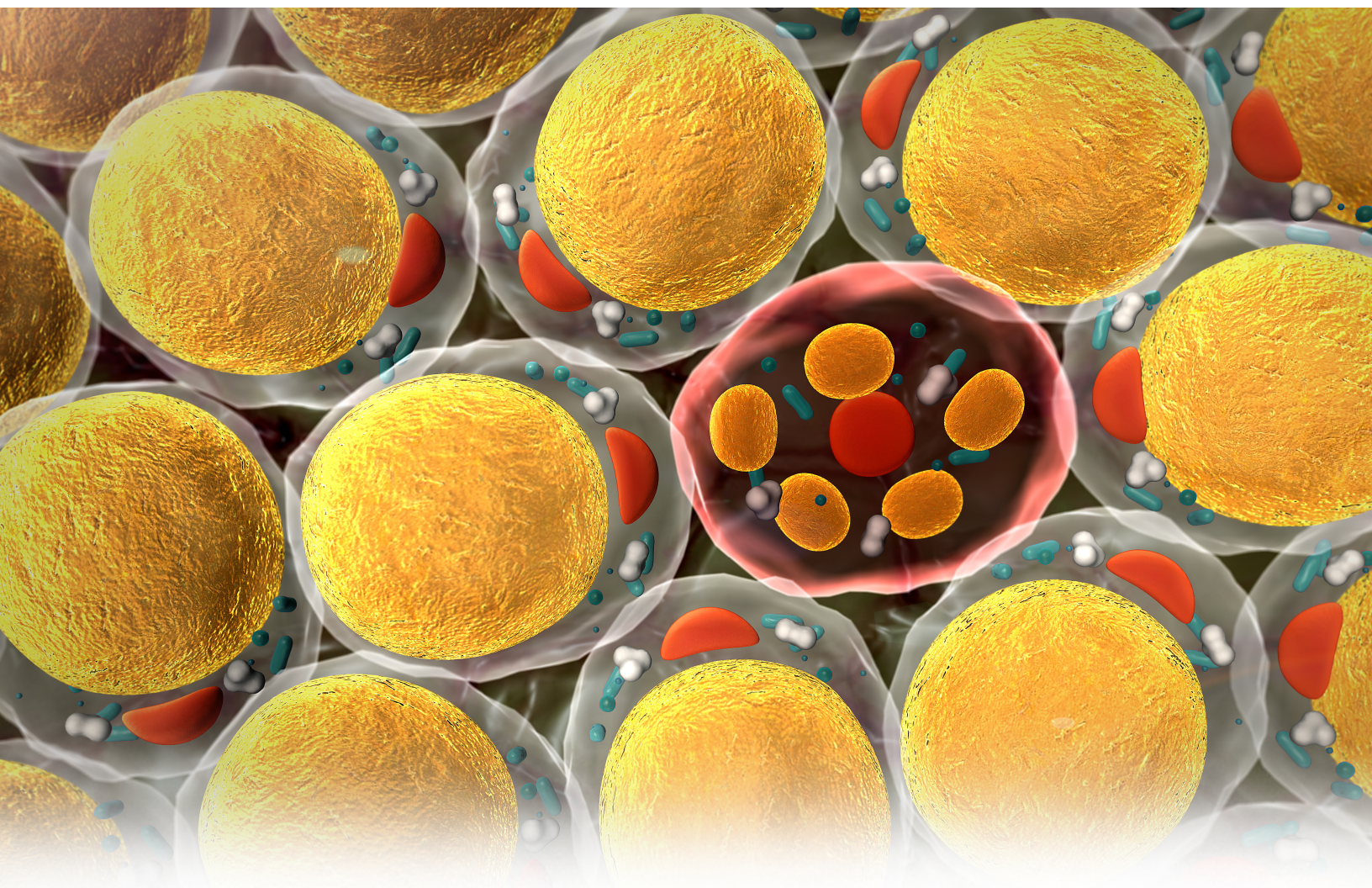
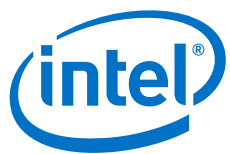




Technology Enables Advancements in Cell Therapy



IoT Solutions
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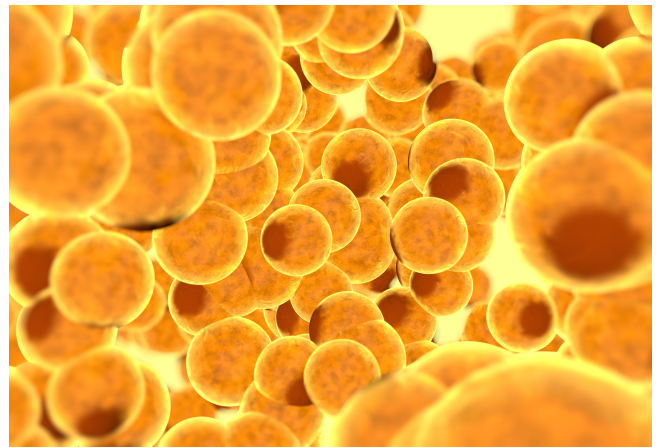
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What is Cell Therapy?

Cell therapy involves constantly-evolving clinical processes that are still being researched and explored as a means to replace or repair human cells, tissue or organs. An example of one of these processes is a bone marrow transplant, which requires harvesting healthy red blood cells from the spongy tissue inside a donor's bones and transferring them into a patient's bloodstream. In turn, these would develop healthy red blood cells, white blood cells and platelets in the patient's body. This process is used to treat patients with some cancers and diseases, such as leukemia and sickle cell anemia. Another form of cell therapy currently undergoing clinical trials involves harvesting stem and regenerative cells from adipose tissue.

Recent Technology Discovered the Benefits of Adipose-Derived Regenerative Cells (ADRCs)

New technology and research led the cell therapy scene to the use of Adipose tissue- or fat tissue. Adipose tissue is a rich source of regenerative cells that can transform into various types of cells, including muscle, bone, fat, cartilage and nerve cells. They can be used to promote bone healing, cardiovascular regeneration, pancreatic regeneration and so on. There are a couple benefits of using adipose tissue as a source of regenerative cells as opposed to bone marrow.

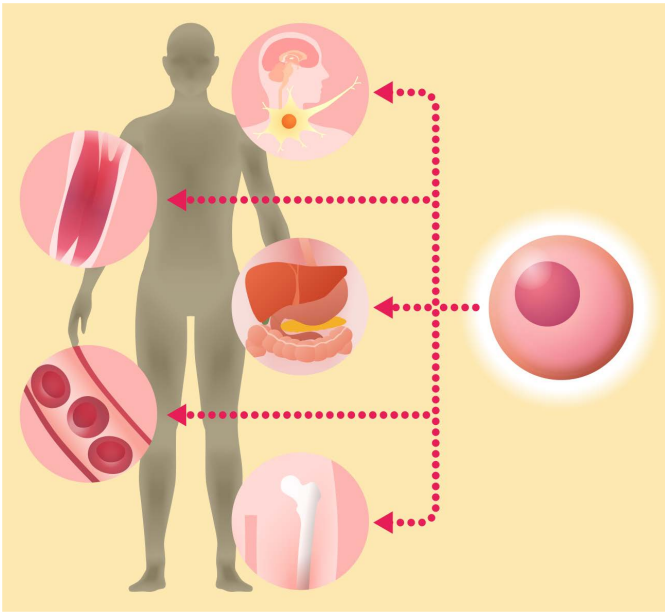


Instead of receiving the cells from a bone marrow donor, Adipose-Derived Regenerative Cells (ADRCs) can be harvested from the same patient who is being treated. This eliminates the risk of the cells being rejected by the patient's body, as well as the risk of disease transmission. The adipose tissue is collected from the patient through a minimally invasive surgery and yields more regenerative cells compared to ones derived from bone marrow.

Another benefit is that the process of harvesting the ADRCs and transferring them to the patient can be completed within less than two hours. Without the need for cell culture after extraction of the adipose tissue, patients can receive the ADRCs during the same visit. It cuts down on the time spent on the procedure, as well as reduces the cost of the treatment, by eliminating that extra step.

Computer Technology Enables ADRCs

Medical device manufacturers have been developing specialized machines to carry out this process. These machines can be used to safely and efficiently extract and separate the regenerative cells from the adipose tissue. The equipment is required to remain sterile to protect the ADRCs from becoming contaminated. The procedure involves continuously washing the adipose tissue with clinical-grade processing reagents inside the equipment. The machine then isolates and purifies the



concentration of ADRCs to prepare it for administration to the patient. This smart device is required to be closed and automated in order to retrieve the patient's regenerative cells and safely process the tissues.

The computer that serves as the brain of the device's operation is required to have high processing power to perform the related complex tasks. It must be able to deliver results with accuracy and speed. It must also be highly reliable and offer communication options and connectivity to other peripherals. Smaller form factors are desirable due to the required mobility of the equipment. High

level of flexibility for customization is expected in order for the medical device manufacturers to integrate and adapt the computer to the device design and its required functionalities. With emerging industrial computer technology, a small form factor motherboard such as a Pico-ITX can pack a punch with its high performance CPU and flexible features to facilitate the integration and deliver the desired functions a medical device manufacturer may seek.

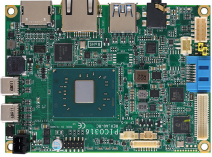
Axiomtek Embedded Motherboards and Support

Axiomtek offers a full range of industrial **embedded motherboards**, which have been selected by world-renowned medical device manufacturers for many complex medical applications. They come in a variety of form factors with comprehensive and useful features suitable for a wide variety of medical device products. The motherboards are feature-rich with scalable processors, rich I/O options, flexible customization and easy-to-integrate designs.

Axiomtek's design engineering and value-added services have helped support many medical device manufacturers with their board- or system-level designs throughout their device development processes. With more than 25 years of expertise in providing assistance to medical device manufacturers and providing the latest in computer technology, Axiomtek is focused on its commitment to the medical industry to deliver innovative computers and first-in-class services to help our medical OEM and ODM customers successfully and effectively achieve their project goals.

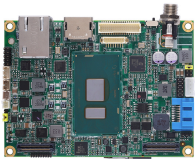
Product Showcase

PICO316 – Compact, Highly Versatile Pico-ITX Motherboard



- Scalable CPU options with Intel® Celeron® Processor N3350 or Pentium® Processor N4200
- Features one 204-pin DDR3L SO-DIMM socket for up to 8GB of system memory
- Multiple I/O options with one GbE LAN, two COM, three USB 3.0, two USB 2.0 and audio
- Equipped with one PCIe Mini Card slot with mSATA support

PICO512 – Advanced Pico-ITX Motherboard with Intel® AMT 11 Support



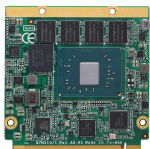
- Scalable CPU options with 7th Generation Intel® Core™ i7/i5/i3 or Celeron® Processors
- Features one 260-pin DDR4-2133 SO-DIMM socket for up to 16 GB of system memory
- Expandable with one PCI Express Mini Card slot with mSATA
- Operational stability with extended operating temperature range of -20°C to +70°C (-4°F to +158°F)

CEM511 – High Performance COM Express Type 6 Module



- Compact form factor module with 7th Generation Intel® Core™ i7/i5/i3 Processor
- Expandable with up to six lanes of PCIe
- Rich I/O features including four USB 3.0, eight USB 2.0, one LPC, one SPIC and more
- Supports AXView 2.0 intelligent remote management software and TPM 1.2

Q7M311 – Extremely Compact, Feature-Rich Qseven System-On-Module



- Scalable CPU options with Intel® Pentium® Processor N4200 or Celeron® Processor N3350
- Features onboard 4GB DDR3L for up to 8GB of system memory
- Expandable with up to four lanes of PCIe
- Rich I/O features including one GbE LAN, three USB 3.0 and four USB 2.0



Intel® Internet of Things Solutions Alliance

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