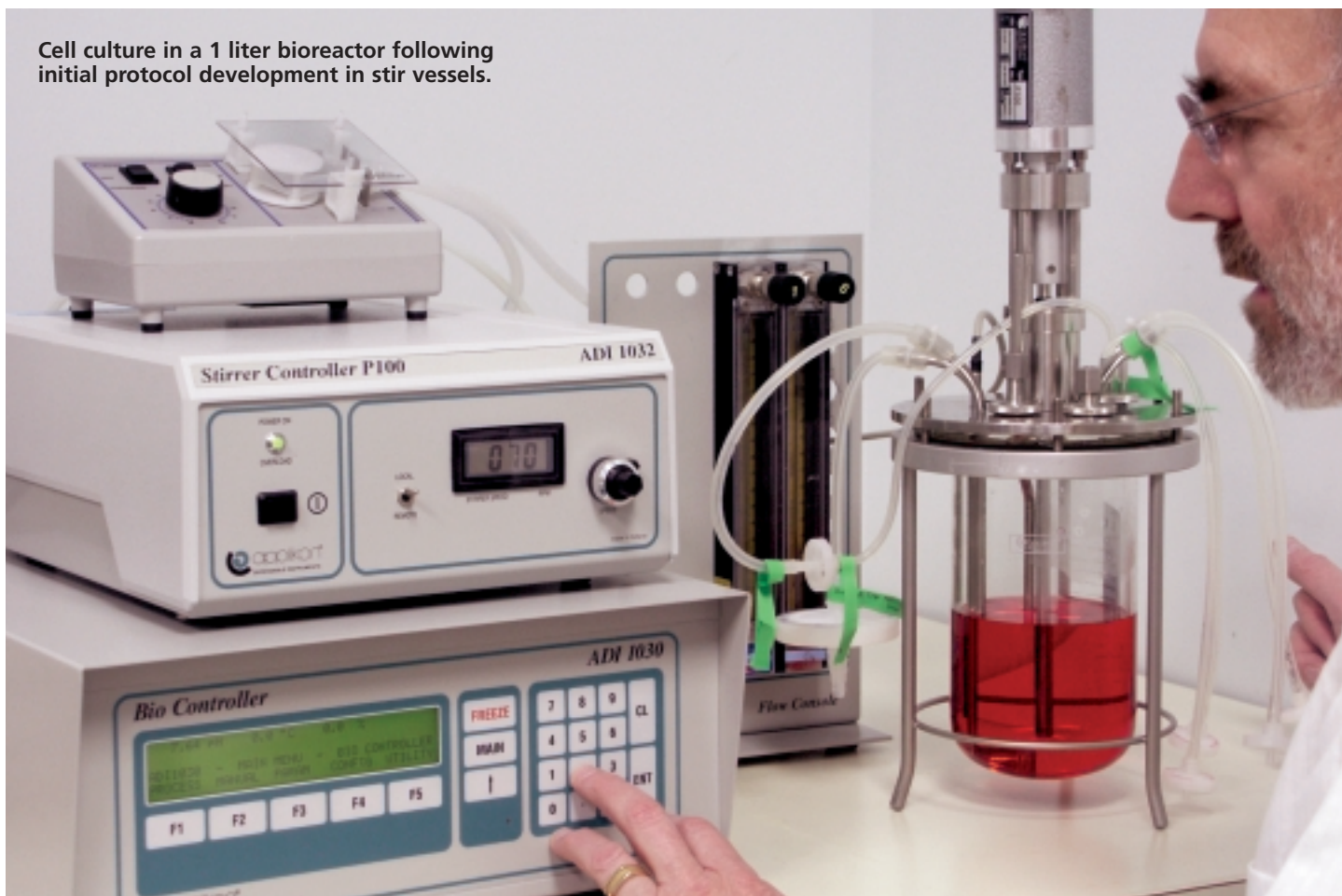


SOLOHILL CONTRACT RESEARCH

Cell culture in a 1 liter bioreactor following initial protocol development in stir vessels.



Outsource your protocol development

Cell culture contract research services are available from SoloHill Engineering. Many customers find that despite their best plans to perform in-house work, their own staff and equipment resources are constantly being utilized to address changing priorities in busy organizations.

Let SoloHill perform your feasibility studies. We have a complete staff of microbiologists and cell culture scientists in modern, well equipped laboratories. We will develop data on your cell lines and our microcarriers, present it, and work with you to ensure that the same results can be duplicated in your facility.

Services available

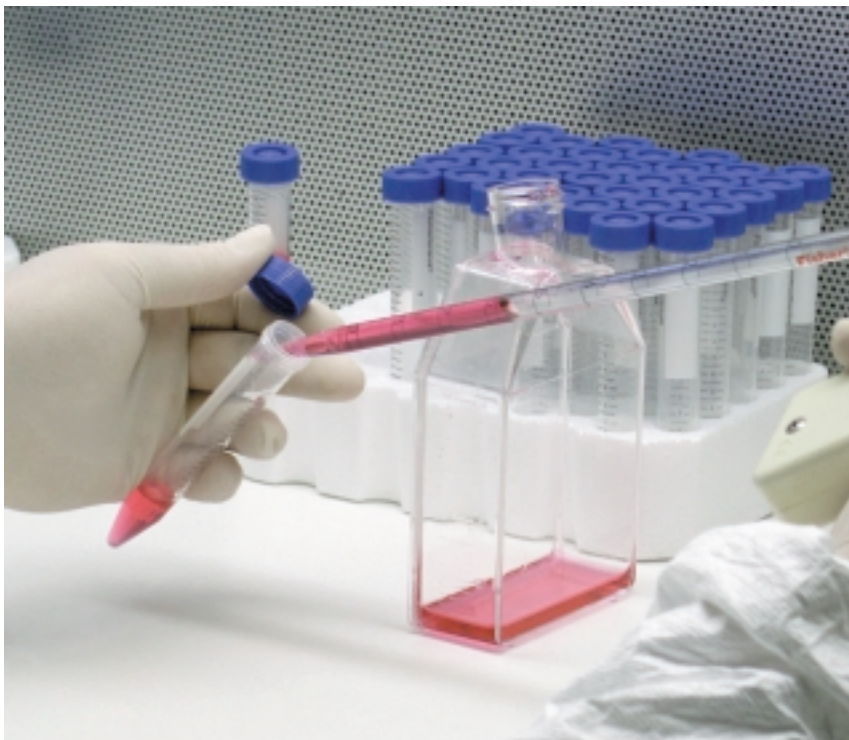
- Cell line culture studies
- Microcarrier evaluation studies
- Protocol development
- Media evaluation

All of the above are currently being done at SoloHill's Ann Arbor, Michigan facility for both human health and animal health customers using our microcarriers.

Your firm has the opportunity to benefit from SoloHill's success in winning SBIR grants from the National Institutes of Health: 18 grants and over \$3 million to date. Grant and



SOLOHILL



Cells and media are pipetted within a biological hood during cell harvest.

company funds have been used to continuously (1) develop and market new types of microcarriers and (2) develop manufacturing protocols for vaccines such as Marek's and influenza.

Cell Culture Research Equipment

SoloHill's major equipment includes a fully functional cell culture facility which contains:

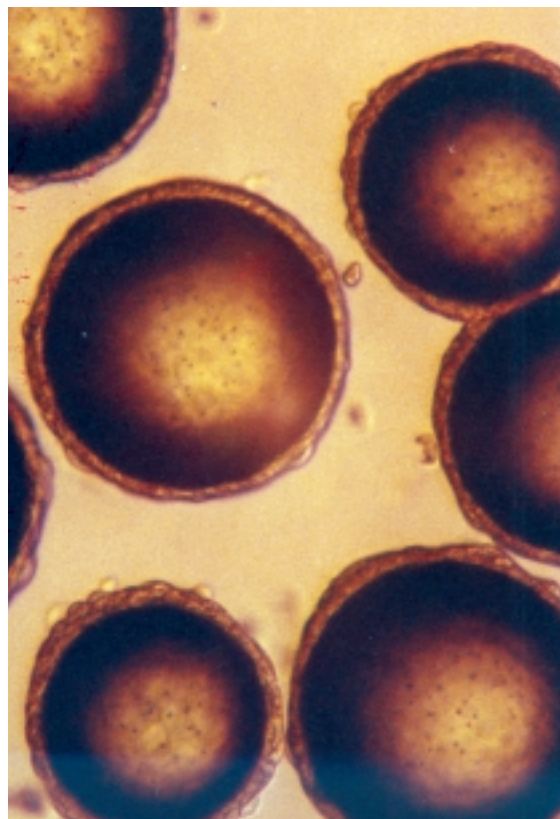
- laminar flow hoods
- Class II biological safety hood
- 6 CO₂ incubators
- 2 autoclaves
- 2 Coulter Particle Size Analyzers
- Applikon bioreactor (1 liter)
- centrifuge
- freezers
- refrigerators
- low-temp freezer (-86° C)
- low-temp refrigerator (4° C)
- water jacketed glass stir vessels up to 6 liters
- many microcarrier stir vessels
- many microscopes (one with digital camera and monitor)
- cell counters
- all ancillary hardware

Computer System

SoloHill has a fully integrated server supporting a LAN computer network consisting of ten work stations. These computers are used for (1) process control, (2) data acquisition and analysis, (3) business and financial management plus (4) research and other scientific functions. This system is leased and is kept quite current, essentially upgrading significant hardware and software every three years.

Other Equipment

All required analytical and measurement functions are performed using company owned equipment, and an outside service organization performs annual calibrations. Services from machine shops, electronics labs, secretarial, accounting and bookkeeping are procured only as needed from outside sources. The as-needed services have been efficiently used by SoloHill for nearly 20 years and are critical in keeping our indirect costs at low levels.



Cells have achieved confluency on SoloHill microcarriers, and an annular ring of these cells is quite visible.

It's Easy to Work With:



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