

CelCradle™ X

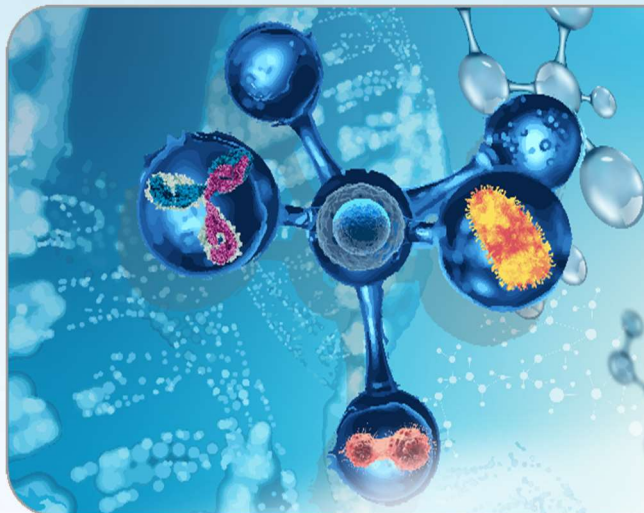
Closed Automated Single Use cGMP/GMP (ISO 13485) Bioreactor



**currently available for beta testing*

Features:

- Complete standalone bioreactor running on Siemens HMI/PLC with single-use bottles, pH, and DO sensors
- Can be used as a standalone bioreactor or integrated with an Esco Laminar Airflow Cabinet, Biosafety Cabinet or Cell Processing Isolator
- Equipped with H₂O₂ biodecontamination system
- Produced in ISO 9001/14001/13485 factory
- Automated seeding and control of pH/DO and glucose (optional)
- Single use automated harvesting system for autologous cell therapy, process development, and seed train for TideXcell™
- Able to use autoclavable pH/DO sensors for process development and switch *in situ* for single use pH/DO



Commercial GMP/cGMP Solutions

- Vaccine Production
- Intracellular, Secreted Viral Vector or Virus Process Development
- Monoclonal Antibodies or Recombinant Proteins for therapeutics/*in vitro*/*in vivo* diagnostics
- Proteome Research
- Drug Discovery
- PKPD Testing
- Conditioned media production for cosmeceuticals
- Virus MVB production
- Adherent cell master cell bank (MCB) or working cell bank (MCB) generation

Enabling research/clinical solutions:

- Adherent cell seed train for TideXcell™
- Stem cell or exosome-autologous therapy (bone regeneration using bioscaffolds)
- Autologous Adherent Cell Therapy (e.g. hair loss, face recontouring, etc.)
- Technology transfer from multi-stack or hyperstack bioreactors for small scale production of vaccines/virus/viral vectors
- Monoclonal antibodies or proteins
- Biochemistry/Stemistry

Beta Unit Options:



- Minus 8°C from ambient to 40°C
- Aquaculture vaccines (as low as 16°C)
 - Low temperature 25-28°C with 2.5% CO₂



Mini fridge for final secreted product collection



Improved RH to up to 95%



Hollow fiber for protein concentration and clarification



Aseptic sampling



Orbital shaker for insect or other cell seed train

Nomenclature:

Model	Bioprocessing Mode	Bioprocessing Mode / Bottles		Mixing Bottle	Packed Bed Volume	Carrier Type
CelCradle X	SA-SUGH (Semi-Automated Single Use Glass Hybrid) Single use Single Bottle with Single Pump, Glass Mixer, autoclavable pH/DO sensors	BR	500-AP Single use. Batch with Re-circulation 2L (0.5L cannot be used)	Single use 2L bottle, single use pH, & DO sensor	Empty	client's own or pack lower volume BioNOC™ II/BioMesh
	SA-SUB (Semi-Automated Single Use CC Bottle with peristaltic pump) Semi-automated, after cells are cultured to confluence, will need to be disconnected and placed into separate CelCradle harvesting system with in-line, purification, filtration and filling	PFH	500-AP single use. Perfusion with Feed/Harvest of Biologic 0.5L Mixer (2L cannot be used), 2L Feed / Harvest Bag	Single use 0.5L, single use pH, & DO sensor	0.1 liter	BioNOC™ II or BioMesh™
	FA-SUB (Fully Automated Single Use From Cryovial to Filled Product)			Glass 2L, autoclavable pH & DO Sensor	0.2 liter <small>*not available for beta testing</small>	BioNOC™ II or BioMesh™
				Glass 0.5L, autoclavable pH & DO Sensor	0.3 liter <small>*not available for beta testing</small>	BioNOC™ II or BioMesh™

ESCO
VACCI X CELL
ADHERENT BIOPROCESSING SPECIALIST

Bioprocessing Tools:

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