

## Microbial Fermentation For API's

BioVectra is an industry leader in microbial fermentation of both small and large molecules, with scalable cGMP operations from **30L to 17,000L**. In response to market demand we have invested in several expansions to double our capacity to **64,000L**, which is located across two geographically distinct locations providing commercial redundancy.

In addition to industry standard downstream processing techniques, BioVectra's core synthetic chemistry capabilities have been integrated into our fermentation service offerings, allowing for complex solvent-based purification processes. This is further extended by a core focus on natural product syntheses from secondary metabolites produced by microbial fermentation to

### Types of Drug Products:

- ✓ Small molecules
- ✓ Proteins
- ✓ Enzymes
- ✓ Antibody fragments
- ✓ Peptides

### Range of Microbes:

#### > Capabilities

##### > Microbial Fermentation For API's

##### > Complex Chemistry

##### > High Potency APIs (HPAPI)

##### > Biologics Manufacturing

##### > Process & Analytical Development

##### > Drug Development

extended by a core focus on natural product syntheses from secondary metabolites produced by microbial fermentation to generate highly complex intermediates and APIs.



### Range of Microbes:

- ✓ Filamentous bacteria
- ✓ Marine based bacteria
- ✓ Fungal fermentation
- ✓ E. Coli

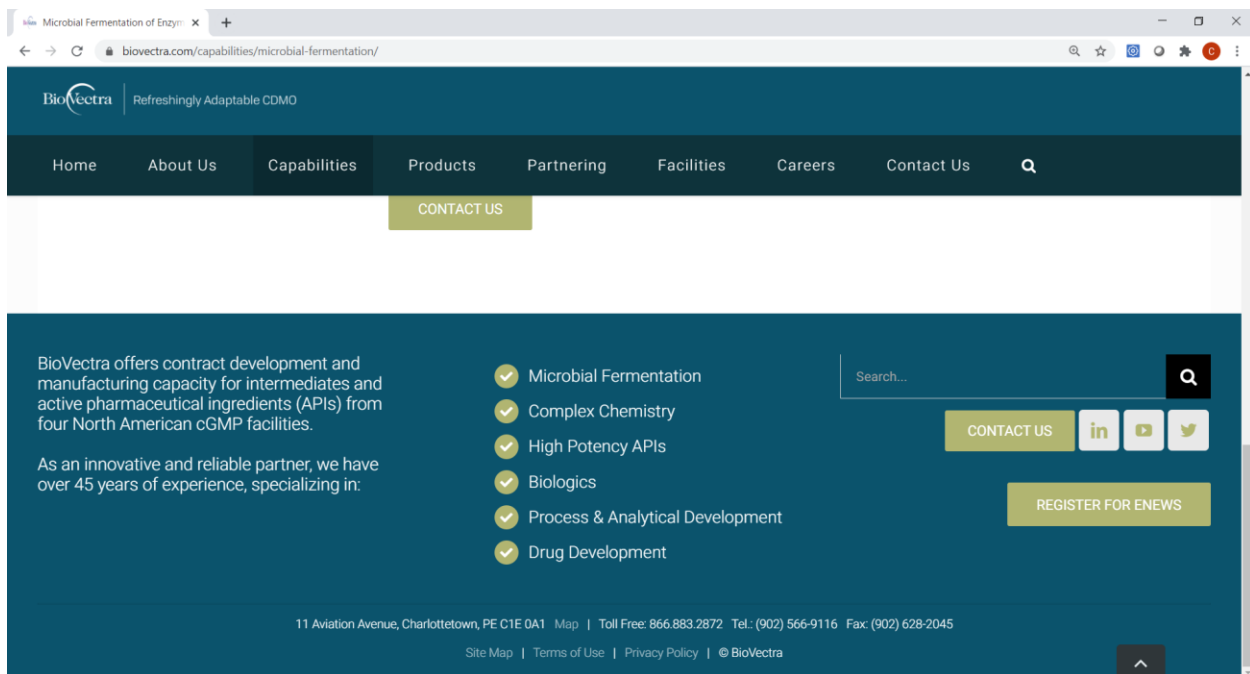
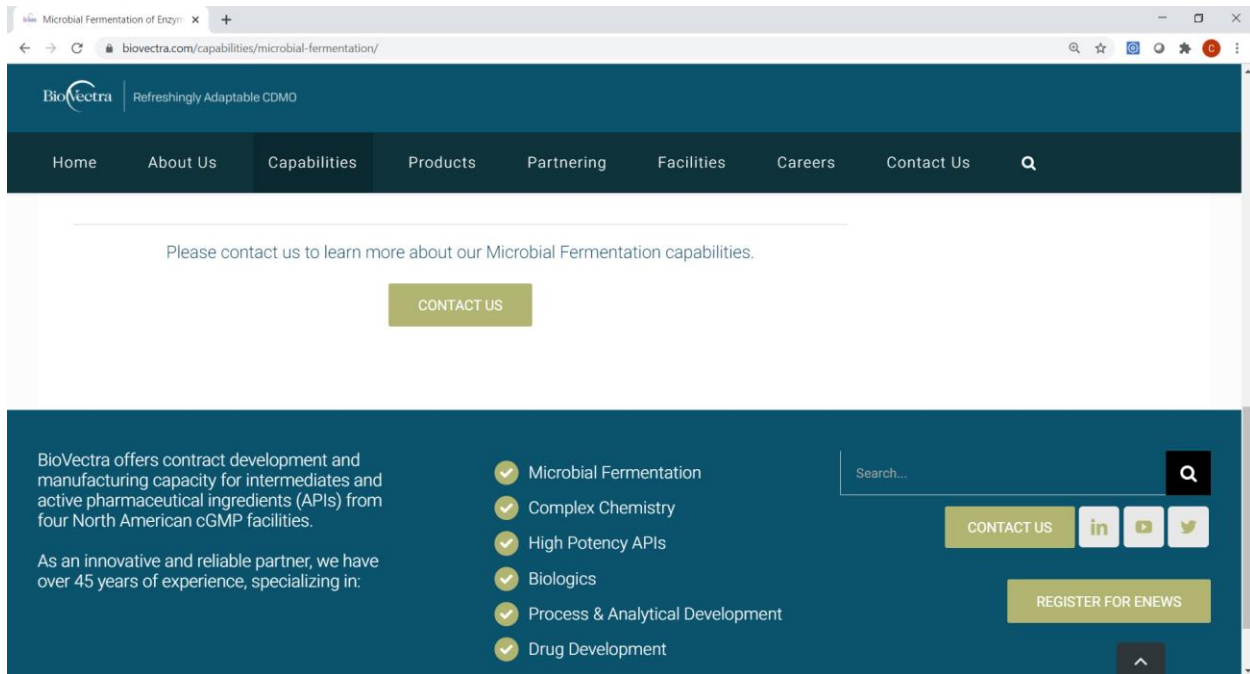
### Downstream Processing:

- ✓ Centrifugations
- ✓ Lysis
- ✓ Purification
- ✓ UF/DF
- ✓ Synthetic chemistry

#### > Drug Development

##### > Literature





<https://www.biovectra.com/capabilities/microbial-fermentation/> Class 1 January 26, 2021

biovectra.com/products/bioprocessing-reagents/ Toll Free: 866.883.2872

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## BioProcessing Reagent Manufacturers

BioVectra offers a selection of high quality bioprocessing reagents that are available in a variety of sizes from gram quantities for research and testing to multi-kg scale for manufacturing operations. Several of our bioprocessing reagents are available in cGMP grade, which provides our customers with an industry-leading level of quality and compliance to support their cGMP manufacturing operations.

- + DTT Dithiothreitol (cGMP)
- + DTT Dithiothreitol
- + DTT Dithiothreitol (Molecular Biology Grade)
- + DTE Dithioerythritol
- + DHA Dehydroascorbic acid (cGMP)

> Products

- > **Bioprocessing**
- > Diagnostic
- > Molecular Biology
- > MPEG Reagents

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- + DHAA Dehydroascorbic acid (cGMP)
- + TCEP Tris (2-carboxyethyl) phosphine, hydrochloride (non-cGMP)
- + TCEP Tris (2-carboxyethyl) phosphine, hydrochloride (cGMP)
- + IPTG Isopropyl-β-D-Thiogalactopyranoside (Non-Animal Origin)
- + PMSF Phenylmethylsulfonyl Fluoride
- + MTX Methotrexate, USP
- + EDAC 1-(3-Dimethylaminopropyl)-3-Ethylcarbodiimide HCl

Please contact us to learn more about our bioprocessing reagents.

CONTACT US

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Chemical Process & Development Services

BioVectra offers a fully integrated approach to the process development of chemical and biological active pharmaceutical ingredients (APIs). We combine scalable and adaptable development services with a proven history of scientific expertise to rapidly move APIs from development to commercial manufacturing.

Our process and analytical development services include:

- ✓ Process development and scale-up
- ✓ Tech transfer of new and existing processes
- ✓ Highly potent APIs and controlled substances
- ✓ Microbial fermentation
- ✓ cGMP analytical services
- ✓ Critical process parameter (CPPs) and critical quality attributes (CQAs) by Quality by Design (QbD)
- ✓ Clinical supply manufacturing
- ✓ Process improvements
- ✓ Complex chemistry
- ✓ Phase appropriate cGMP
- ✓ Production (cGMP and non-cGMP) at lab and pilot scale

Chemical API Process Development

Capabilities

- > Microbial Fermentation For APIs
- > Complex Chemistry
- > High Potency APIs (HPAPI)
- > Biologics Manufacturing
- > **Process & Analytical Development**
- > Drug Development
- > Literature

<https://www.biovectra.com/capabilities/chemical-process-analytical-development/> Classes 40 and 42 January 26, 2021

Bioprocessing Reagents | BioVectra

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MPEG Reagents

- + DTT Dithiothreitol (cGMP)
- + DTT Dithiothreitol
- **DTT Dithiothreitol (Molecular Biology Grade)**

Includes additional testing for: Protease, Rnase, Dnase, ICP metals.

CAS #	BioVectra Catalogue #	Pack Sizes	Specifications
3483-12-3	1365 MBG	5g, 1kg, 20kg	

- + DTE Dithioerythritol
- + DHAA Dehydroascorbic acid (cGMP)
- + TCEP Tris (2-carboxyethyl) phosphine, hydrochloride (non-cGMP)

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