



News

December 1, 2007

New Chromatography Equipment

July 1, 2007

Equipment access

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New immunological services for Fina BioSolutions

Protein Purification & Bioconjugation Services

Fina BioSolutions [protein purification](#) services help small biotech companies move from discovery to early clinical trials.

Fina BioSolutions [bioconjugation](#) services create essential reagents for diagnostic assays, particularly ELISAs. We are also noted for expertise in making [conjugate vaccines](#).

We also offer [protein expression](#) and [immunoassay design](#) services through a network of affiliates.

Service

- [Protein Purification / Downstream Processing Services](#)
- [Protein Expression Optimization and Fermentation](#)
- [Bioconjugation Services](#)
- [Immunoassay Design and Antibody Production](#)
- [Protein Services](#)

Services

- Protein Purification / Downstream Processing Services
- Protein Expression Optimization and Fermentation
- Bioconjugation Services
- Immunoassay Design & Antibody Production

Protein Purification Services

Fina BioSolutions protein purification services help small biotech companies move from discovery to early clinical trials. We specialize in developing protein purification/downstream processing protocols for laboratory-scale and process scale-up.

Protein Purification Outsourcing. We can purify your diagnostic or therapeutic protein, including antibodies and enzymes. Our mixed-mode protein chromatography expertise offers efficient capture and purification with a minimum number of steps.

Development of Protein Purification/Downstream Processes for Scale-Up. Proceed to Phase I/II manufacturing through our alliances with the [University of Maryland BioProcessing Scale-up Facility \(BSF\)](#) and the [Center for Advanced Research in Biotechnology \(CARB\)](#) GMP facility in Rockville, Maryland.

Downstream Process Troubleshooting. We can review and revise your current protocols to help you develop a robust purification process that runs with minimal variation.

Protein Expression

Protein Expression Optimization and Fermentation. Through our partners we can optimize protein expression and fermentation media and generate your raw cell mass for protein purification. We offer bacterial fermentations from 1 to 200 liters. Yeast and mammalian cell fermentations are available also.

Bioconjugation Services

Bioconjugation creates essential reagents for many diagnostic assays, particularly ELISAs. We are noted for our work in conjugate vaccines. More than 30 years' experience.

Bioconjugation Specialties:

- Anti-Ig dextran conjugates
- Protein-carbohydrate conjugates for conjugate vaccines
[Ref: Vaccine 2006 24:716-29.](#)
- Peptide conjugates to enhance binding and detection for ELISAs

Other Bioconjugation Services Include:

- Antibody and protein biotinylation and fluorescent labeling
- Antibody-enzyme conjugates and other protein-protein linkages
- Conjugations for peptide immunogens and vaccines
- Conjugations with hydrophobic peptides.
- Pegylation

Conjugate Vaccines. We have decades of experience in conjugate vaccines and proprietary chemistry for preparing carbohydrate conjugate vaccines. One of our inventions licensed by GlaxoSmithKline underlies the chemistry of their pediatric conjugate vaccines Menitorix and Synflonix.

Protein Conjugate Vaccine Patent Consulting. Protein conjugate vaccine patents constitute a vast body of prior art. We can help conjugate vaccine makers determine what is an innovation and what is not.

Immunoassay Design & Antibodies

These services are offered through our affiliate [Antibody and Immunoassay Consultants, LLC](#).

Immunoassays. We design and validate immunoassays according to client production requirements. We can also make reagents to minimize the number of immunoassay steps.

Antibody Production Services

- Murine monoclonal antibodies
- Murine and rabbit polyclonal antibodies

Training

Seminars and presentations

- Pall Comprehensively Chromatography, Pune & Hyderabad, India, January, 2007.
- Interphex, Puerto Rico, February 2, 2007.
- Indian Pharmaceutical Association Mumbai, India, September 13, 2007.
- Washington Chromatography Discussion Group, Rockville, MD, November 14, 2007.

Chromatography training

- Techniques in Molecular and Cellular Biology, Uniformed Services University of the Health Sciences, Bethesda, MD, March, 2008.
- Selected Topics in Bioengineering: Biotechnology and Bioproduction (BIOE468B) University of Maryland, College Park, MD January, 2008.

Recent publications & citations

- The nature of the association between polysaccharide and protein antigens in an intact bacterium versus a related conjugate vaccine critically determines the ability to generate memory for the polysaccharide-specific IgG response. J. Colino¹, G. Chattopadhyay¹, G. Sen¹, Q. Chen¹, A. Lees², DH. Canaday³, A. Rubtsov⁴, R. Torres⁴, and CM. Snapper¹. (Abstract) Am Assoc Immunol., San Diego, 2008.
- Opsonic monoclonal and chimeric antibodies specific for lipoteichoic acid or gram positive bacteria. Stinson, J.R., R.F. Schuman, J.J. Mond, A. Lees, and G.W. Fischer. US Patent #7,250,494. Issued July 31, 2007
- Eluting Possibilities with Mixed-Mode Chromatography: Mixed-mode chromatography sorbents and custom ligands aim to optimize protein purification. [Maribel Rios. Pharmaceutical Technology May 2, 2007.](#)
- Purification of soluble CD14 fusion proteins and use in an electrochemiluminescent assay for lipopolysaccharide binding. Burkhardt, M., A. Lopezacosta, K. Reiter, V. Lopez and A. Lees. Protein Exp. Purif., 51:96, 2007.
- A β -immunotherapy for Alzheimer's disease using mannan-amyloid- β peptide immunoconjugates. Ghochikyan A, Petrushina I, Lees A, Vasilevko V, Movsesyan N, Karapetyan A, Agadjanyan MG, Cribbs DH. DNA Cell Biol. 25:571, 2006

News

New Chromatography Equipment

December 1, 2007—Fina BioSolutions acquires an Akta Purifier and an Akta FPLC. The acquisition of these chromatography systems will allow Fina to perform automated process development. The Unicorn software. These systems augment the four Waters HPLC systems already in place for protein purification and analysis.

Equipment access

July 1, 2007—Fina BioSolutions can now provide capillary SDS electrophoresis through an agreement with BioTaq of Gaithersburg, MD (<http://www.biotaq.com/>). Access to an Agilent BioAnalyzer 2100 will permit computerized, lab-on-a-chip electrophoresis for process development and protein characterization.

New immunological services for Fina BioSolutions

June 1, 2007—Antibody and Immunoassay Consultants, LLC of Rockville, MD (<http://aicbiotech.com/>) will provide immunology, and immunoassay services for Fina BioSolutions. AIC is located adjacent to Fina BioSolutions.

R&D agreement with the Serum Institute of India for the development of conjugate vaccines

January 1, 2007—Fina will provide novel conjugation chemistry for meningitis and pneumonia conjugate vaccines

About Us

Protein purification and bioconjugation services are our business. We are noted for expertise in [mixed-mode protein chromatography](#) and [conjugate vaccines](#).

Here is what we offer. For more detail, see [Protein Services](#).

- **Protein Purification Process Development.** We specialize in developing protein purification/downstream processing protocols for laboratory-scale and process scale-up.
- **Protein Purification Outsourcing.** We can purify your protein for you.
- **Bioconjugation** chemically links molecules to enhance their biological usefulness. We provide consulting and laboratory bioconjugation services, including bioconjugations for vaccines, immunogens, and diagnostic reagents.
- **Conjugate Vaccines.** We have decades of experience in conjugate vaccines and proprietary chemistry for preparing carbohydrate conjugate vaccines.
- **And More.** Through affiliates, we offer protein expression optimization and fermentation services, immunoassay and hybridoma development, and vaccine testing. Our partners include the [University of Maryland BioProcessing Scale-up Facility \(BSF\)](#), the [Center for Advanced Research in Biotechnology \(CARB\)](#) GMP facility, and [Antibody and Immunoassay Consultants, LLC](#).

About Andrew Lees, Scientific Director

Andrew Lees, Ph.D., scientific director and founder of Fina Biosolutions, is an internationally recognized expert in mixed-mode protein chromatography. He consults for Pall Corporation on protein chromatography applications and since 1998 has taught protein chromatography in Europe, India, Singapore, and across the United States.

Additionally he is recognized for his work in conjugate vaccines. One of his inventions underlies the chemistry of GlaxoSmithKline's pediatric conjugate vaccines Menitorix and Synflorix. Menitorix prevents meningitis caused by Neisseria meningitidis group C or haemophilus influenzae type B. Synflorix, currently under development, will protect against otitis, meningitis, and pneumonia. Currently, Dr. Lees is co-developing conjugate vaccines with the [Serum Institute of India](#).

Dr. Lees is an adjunct faculty member at the Uniformed Services University of the Health Sciences in Bethesda, Maryland and an affiliate of the University of Maryland Bioprocessing Scale-Up Facility. He holds 15 patents and is the author or co-author of more than 40 papers. His Ph.D. in Biophysics is from the Johns Hopkins University.

On his own time Andy indulges a passion for bicycles and delights children with [magic tricks at birthday parties](#).

Additional Information:

 [Andrew Lees Curriculum Vitæ](#)

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Testimonials

Jon delaHarpe, Ph.D., RAC
President
Proteus Biotech LLC

“ Dr. Lees’ in-depth knowledge of the chemistry and biochemistry of proteins, carbohydrates and chromatography processes, and his innovative and imaginative thinking were key factors in the success of [our] project. [more→](#)

Keith G. Inman, Ph.D.
Director, Protein Core
Facility
Univ. of Maryland School of
Medicine

“ The response to your Short Course on Biochromatography was overwhelming. Every individual responding to our survey spoke positively of the material, the delivery, and the overall format of the course. [more→](#)

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Notes