

MICHIGAN

ANTIBODY TECHNOLOGIES CENTER

The Michigan Antibody Technology Center (MATC) consists of two individual cores: the Monoclonal Antibody Technology Core at Van Andel Research Institute in Grand Rapids and the Hybridoma Core at the University of Michigan in Ann Arbor. The MATC has extensive capabilities in generation, characterization, scale-up production and purification of a variety of mAbs using comprehensive cutting-edge technologies. Our goals are to provide state-of-the-art antibody technologies and services to research scientists; generate, characterize, produce and purify a wide variety of monoclonal antibodies; and make human antibody fragments for basic research/clinical diagnostic/therapeutic applications; and advance biomedical research and development.



SERVICES

The technologies and services available in the MATC include:

- Antigen preparation and animal immunization: proteins, peptides, cells, DNAs etc. and in vitro immunization.
- Conventional techniques of hybridoma production: generation of hybridomas from spleen cells of immunized mice, rats, and rabbits.
- Hybridoma expansion and subcloning.
- Cryopreservation of hybridomas secreting mAbs.
- Monoclonal antibody isotyping.
- ELISA screening of hybridoma supernatants and mAb characterization by immunoprecipitation, western blot, immunohisto-

ELISA screening of hybridoma culture supernatants

chemistry, immunofluorescence staining, FACS, in vitro bio-assays, and affinity measurement.

- Production of mAbs—high density cell culture techniques.
- Purification of mAbs—FPLC affinity columns.
- Generation of bi-specific mAbs by secondary fusion.
- mAb affinity column preparation to purify antigen.
- Conjugation of mAbs to enzymes, fluorescence reporters, biotin/streptavidin etc.
- Development of detection methods/kits such as sandwich ELISA.
- mAb epitope mapping using peptide phage display libraries.
- Screening of human Fab fragments from in-house generated human naïve phage display Fab library—bio-panning.

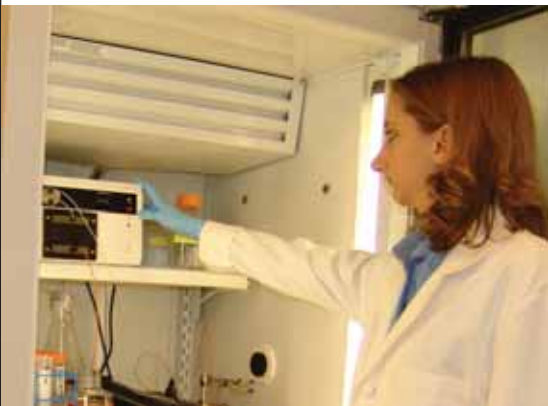
MATC

EQUIPMENT

The MATC is well-equipped for antibody generation, characterization, production and purification. Major equipment includes:

- Freezers (-20, -80) and refrigerators
- Centrifuges (high-speed, bench-top, micro, etc.)
- Tissue culture hoods
- Incubators
- Microplate reader and washer
- Sonicator
- Gene-gun
- AKTA-FPLC protein purification system
- Freeze dryer
- KinExA3000 affinity analyzer

Affinity purification of antibody by FPLC



*Hybridoma
re-cloning
and expanding*

ACCESS

MATC services are available to research investigators on a fee for service basis. Antigens are submitted by the client. Antigen used for immunization may include: purified proteins, non-purified proteins, peptides, DNAs and whole cells. The MATC director or co-director will consult with the client in detail before each project is initiated. Service descriptions and service request forms are available online or upon request.

CONTACT INFORMATION

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■ **Brian Cao, M.D.**
*Senior Scientific Investigator
Director, MATC*
brian.cao@vai.org
Van Andel Institute
333 Bostwick Ave. NE
Grand Rapids, MI 49503
Tel: (616) 234-5342
Cell: (616) 915-4689
Fax: (616) 234-5343
www.vai.org/vari/biography/cao.asp

NODE

■ **David Fox, M.D.**
*Professor of Internal Medicine
Co-Director, MATC*
dfox@med.umich.edu
University of Michigan
1500 E. Medical Center Drive
Ann Arbor, MI 48109-0358
Tel: (734) 936-5566
Fax: (734) 763-1253