


CENTER FOR
CANCER
RESEARCH

Connecting the Cancer Community



• Innovative Science




• Breakthrough Therapies

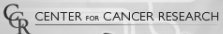
• Clinical Advances

Human Monoclonal Antibodies against Cancer-Related Proteins

TEDCO/NIH/NCI Technology Showcase

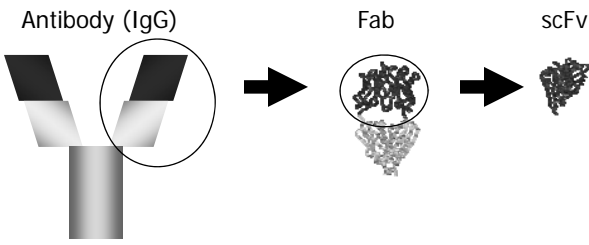
Dimitar S. Dimitrov
September 25, 2007



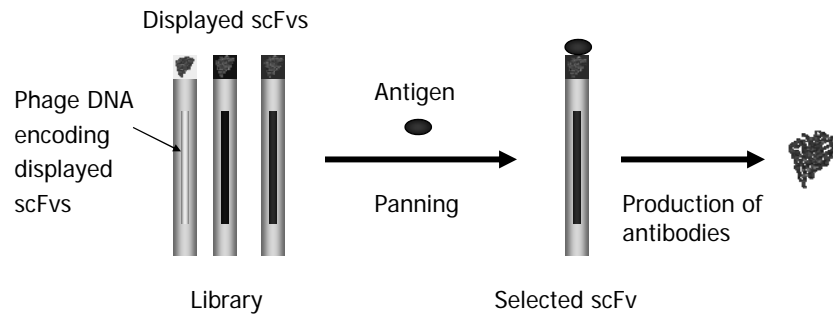
Technology Why Human Monoclonal Antibodies?

- Evolved to fight diseases in human bodies
- Their epitopes – vaccine immunogens and targets for inhibitors
- Can be engineered to further increase efficacy



Antibody (IgG) → Fab → scFv

Technology **How to Identify Human Monoclonal Antibodies? Antibody Libraries Displayed on Phage**



Technology Applications



- Large human antibody libraries containing 10 billion antibodies
- Used for selection of antibodies against cancer-related proteins
- Treatment and diagnosis of cancer

Commercial Applications

- Development of antibody-based cancer therapeutics
- Proteins targeted: IGF-I, IGF-II, IGF-IR, DR4, DR5, Mesothelin, CD22, Her2, EphrinB2
- Viruses targeted: HIV, Hendra virus, Nipah virus, SARS CoV

Collaboration Opportunities

- Phage-displayed antibody library from 10 healthy humans
- Phage-displayed antibody library from 50 humans
- Collaborations for development of novel human antibodies targeting DR4, DR5, Mesothelin, CD22, Her2, EphrinB2 and other cancer-related proteins

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