

15<sup>th</sup> International Conference and Exhibition on

# MATERIALS SCIENCE AND ENGINEERING

&

3<sup>rd</sup> International Conference on

# APPLIED CRYSTALLOGRAPHY

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## Transient expression of monoclonal antibody and bispecific fragments and fragment/antigen complexes for pharmaceutical discovery research

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Fragments, such as F(ab) and F(ab')<sub>2</sub> and fragment complexes are widely required for various research and development activities in biopharmaceutical discovery. We describe the production of fragments (F(ab) and F(ab')<sub>2</sub>) from a variety of parent molecules (monoclonal antibody and DVD-Ig) and frameworks (mIgG1, mIgG2a, huIgG1, huIgG4) by transient expression in HEK293 cells. The method eliminates the need to use enzyme digestion of parent molecules. We have also developed a route for the production of fragment/antigen complexes by direct co-expression in HEK293 for crystallization purpose that allows for higher throughput screening of F(ab) and/or antigen constructs. The resulting products were characterized by biophysical techniques and crystallization experiments demonstrated that the fragments and fragment/antigen complexes produced diffraction quality crystals suitable for X-ray crystallographic analysis.

### Biography

Ramesh Iyer has completed his PhD from the University of Kentucky (Lexington, KY) and Postdoctoral studies from the University of Georgia (Athens, GA). He is a Sr Scientist in the Global Biologics group at AbbVie Inc. His group supports the research and development of biologics for various therapeutic areas within AbbVie Discovery.

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