

# Mohammad A. Alsenaidy, M.Sc., Ph.D.

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## **EDUCATION**

**2009 - 2013**

**Doctor of Philosophy (Ph.D.)** in Industrial Biotechnology and Protein Biosimilarity studies. Department of Pharmaceutical Chemistry, School of Pharmacy, University of Kansas, Lawrence, KS 66045, USA.

**Dissertation Title:**

*“Applicability of Using Physical Stability Data and Advanced Visualization Methods in Protein Biosimilarity and Comparability Studies”*

**Mentor:** Prof. David Volkin (Takeru and Aya Higuchi Distinguished Professor)

**2009 - 2011**

**Master of Science (M.Sc.)** in pharmaceutical chemistry, Department of Pharmaceutical Chemistry, University of Kansas, Lawrence, KS 66045, USA.

**2001 - 2007**

**Bachelor of Pharmaceutical Sciences (B. Pharm.)**, King Saud University, P.O. BOX 2457, Riyadh 11451, Saudi Arabia.

## **POSITIONS and APPOINTMENTS**

- Dec 2013 – Present**                      **Assistant Professor**, College of Pharmacy, King Saud University, P.O. Box 2457, Riyadh 11451, Saudi Arabia.
- Aug 2009 – Dec 2013**                      **Graduate Research Assistant**, Department of Pharmaceutical Chemistry, University of Kansas, Lawrence, KS 66045, USA.
- May 2007 – Jan 2009**                      **Graduate Teaching Assistant**, College of Pharmacy, King Saud University, P.O. Box 2457, Riyadh 11451, Saudi Arabia.

## **TRAINING AND WORKSHOPS**

- Oct, 2015**                                      QA/QC Strategy for Biologics and Biopharmaceuticals. Malvern, PA, USA.
- July-Aug, 2015**                                Visiting Scientist, Biologics Product and Process Development Research Unit. Pfizer laboratories, Greater St. Louis Area, MO, USA.
- Aug 2014**                                      Clinical Proteomics and Biomarker Discovery. National Institutes Health (NIH). Bethesda, MD, USA.
- May 2009**                                      Handling Chemicals and Biohazard Materials Workshop, University of Kansas. Lawrence, KS, USA.
- May 2009**                                      Laboratory Safety Workshop, University of Kansas. Lawrence, KS, USA.

## **RESEARCH EXPERIENCE**

- Physiochemical characterization of therapeutic proteins in Biosimilarity and Comparability Studies.
- Performed biophysical characterization and formulation development of biotherapeutics.
- Effects of freeze-thaw, heat and pH stresses on protein physical and chemical stability in the presence and absence of identified stabilizers.
- Protein production using *Pichia Pastoris* yeast expression system.
- Protein purification using affinity, ionic and hydrophobic interaction chromatography.

## **FACULTY AND ADMINISTRATIVE RESPONSIBILITIES**

<b>Aug 2014 – Present</b>	<b>Member</b> , Laboratory Supplies Committee, Department of Pharmaceutics, College of Pharmacy, King Saud University.
<b>Aug 2014 – Present</b>	<b>Chairman</b> , Safety Committee, Department of Pharmaceutics, College of Pharmacy, King Saud University.
<b>Aug 2014 – Present</b>	Secretary of the board, Department of Pharmaceutics, College of Pharmacy, King Saud University.
<b>Aug 2014 – Present</b>	<b>Member</b> , Department representative in quality and accreditation committee. Department of Pharmaceutics, College of Pharmacy, King Saud University.
<b>Aug 2014 – Present</b>	College representative in social services. Department of Pharmaceutics, College of Pharmacy, King Saud University.
<b>Aug 2014 – Present</b>	<b>Chairman</b> , academic committee, College of Pharmacy, King Saud University.

## **TEACHING EXPERIENCE**

### **Graduate Level:**

**PHT 616:** Stabilization of Biopharmaceuticals (Ph.D. level)

**PHT 594:** Advanced Topics in quality control for pharmaceuticals (Masters level)

### **Undergraduate Level:**

**PHT 351:** Sterile Dosage Forms.

**PHT 463:** Quality Control of Pharmaceutical Dosage Forms.

**PHT 426:** Pharmaceutical Biotechnology. (Pharm.D.)

**PHT 210:** Pharmaceutical Calculations.

**PHT 432:** Industrial Pharmacy.

**PHG 424:** Pharmaceutical Biotechnology. (B. pharm.)

## **PUBLICATIONS**

1. **Alsenaidy, M. A.;** Wang, T.; Kim, J. H.; Joshi, S. B.; Lee, J.; Blaber, M.; Volkin, D. B.; Middaugh, C. R., An empirical phase diagram approach to investigate conformational stability of “second-generation” functional mutants of acidic fibroblast growth factor-1. *Protein Science* 2012, 21 (3), 418-432.
2. **Alsenaidy, M. A.;** Kim, J. H.; Majumdar, R.; Weis, D. D.; Joshi, S. B.; Tolbert, T. J.; Middaugh, C. R.; Volkin, D. B., High-Throughput Biophysical Analysis and Data Visualization of Conformational Stability of an IgG1 Monoclonal Antibody After Deglycosylation. *Journal of Pharmaceutical Sciences* 2013, 102 (11), 3942-3956.
3. **Alsenaidy, M. A.;** Solomon Z. Okbazghi, Jae Hyun Kim, Sangeeta B. Joshi, C. Russell Middaugh, Thomas J. Tolbert, and David B. Volkin, Physical Stability Comparisons of IgG1-Fc Variants: Effects of N-Glycosylation Site Occupancy and Asp/Gln Residues at Site Asn 297. *Journal of Pharmaceutical Sciences* 2014, 103 (6), 1613-1627.
4. **Alsenaidy, M. A.;** Nishant K. Jain, Jae H. Kim, C. Russel Middaugh and David B. Volkin, Protein Comparability Assessments and Potential Applicability of High Throughput Biophysical Methods and Data Visualization Tools to Compare Physical Stability Profiles. *Frontiers in Pharmacology* 2014, 5.

5. Khan, M.; Tabrez, S.; Rabbani, N.; Oves, M.; Shah, A.; **Alsenaidy, M.**; Al-Senaidy, A., Physico-chemical stress induced amyloid formation in insulin: Amyloid characterization, cytotoxicity analysis against human neuroblastoma cell lines and its prevention using black seeds (*Nigella sativa*). *Chinese Journal of Integrative Medicine* 2015, 1-8.

## **ABSTRACTS**

1. **MOHAMMAD A. ALSENAIDY**, SOLOMON Z. OKBAZGHI , JAE HYUN KIM , SANGEETA B. JOSHI , C. RUSSELL MIDDAGH , THOMAS J. TOLBERT , DAVID B. VOLKIN. Physical Stability Comparisons of IgG1-Fc Variants: Effects of N-Glycosylation Site Occupancy and Asp/Gln Residues at Site Asn 297. CASSS High order structures meeting, April, 2015.
2. **Mohammad A. Alsenaidy**, Jae Hyun Kim, Ranajoy Majumdar, David D. Weis, Sangeeta B. Joshi, Thomas J. Tolbert, C. Russell Middaugh, David B. Volkin. High-Throughput Biophysical Analysis and Data Visualization of Conformational Stability of an IgG1 Monoclonal Antibody (mAb) After Deglycosylation. Protein Stability Conference, Colorado, USA, 2013.
3. **Mohammad A. Alsenaidy**, Jae Hyun Kim, Thomas J. Tolbert, C. Russell Middaugh, David B. Volkin. Evaluation of EPDs and Radar charts to compare physical stability of differentially glycosylated IgG1-Fc proteins. The Faculty of Pharmaceutical Chemistry Fall Retreat Week, Lawrence, KS, USA, 2013.
4. **Mohammad A. Alsenaidy**, Thomas J. Tolbert, C. Russell Middaugh, David B. Volkin. Comparing physical stability of differentially glycosylated IgG1-Fc proteins. The Twenty- Sixth Annual Graduate Honors Symposium and Poster Session. Lawrence, KS, USA, 2012.
5. **Mohammad A. Alsenaidy**, Tingting Wang, Jae Hyun Kim, Jihun Lee, Michael Blaber, Sangeeta Joshi, David B. Volkin, C. R. Middaugh. Investigating Conformational Stability of “Second-generation” Functional Mutants of Acidic Fibroblast Growth Factor. Protein Stability Conference, Colorado, USA, 2012.
6. **Mohammad A. Alsenaidy**, Tingting Wang, Jae Hyun Kim, Jihun Lee, Michael Blaber, Sangeeta Joshi, David B. Volkin, C. R. Middaugh. Conformational Stability of “Second-generation” Functional Mutants of Acidic Fibroblast Growth Factor. The Twenty- Fifth Annual Graduate Honors Symposium and Poster Session. Lawrence, KS, USA, 2011.

## **SCIENTIFIC AND PROFESSIONAL SOCIETIES**

1. The Protein Society.
2. American Association of Pharmaceutical Scientists (AAPS).
3. Saudi Pharmaceutical Society (SPS).
4. California Separation Science Society (CASSS)

## **AWARDS AND ACCOMPLISHMENTS**

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| <b>2013</b> | Top Downloaded Article in the Journal of Pharmaceutical Sciences (Oct 2013 - Dec 2013) “High-Throughput Biophysical Analysis and Data Visualization of Conformational Stability of an IgG1 Monoclonal Antibody After Deglycosylation” |
| <b>2011</b> | Honors in master’s degree general exam.   |
| <b>2009</b> | Saudi Arabia Governmental Scholarship for Graduate Studies, King Saud University, Riyadh, Saudi Arabia.   |