

CURRICULUM VITAE

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

Department of Pharmaceutics
College of Pharmacy, Building # 23
Ground Floor, Office # AA 101
King Saud University
P.O. BOX 2457, Riyadh 11451
Saudi Arabia
Office: +(966)-11-467-7370
Mobile: +(966)-504124487
E-mail: mosenaidy@ksu.edu.sa

EDUCATION

2009 - 2013

Doctor of Philosophy (Ph.D.) Macromolecule and Vaccine Stabilization Center, 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.) Macromolecular and Vaccine Stabilization Center, Department of Pharmaceutical Chemistry, University of Kansas, Lawrence, KS 66045, USA.

2001 - 2007

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

PROFESSIONAL EXPERIENCE

- 2016 – Present** **Director** of the Research Center, College of Pharmacy, King Saud University. P.O. Box 2457, Riyadh 11451, Saudi Arabia.
- 2015** **Visiting Scientist**, Biologics Product and Process Development Research Unit. Pfizer laboratories, Greater St. Louis Area, MO, USA.
- 2013 – Present** **Adjunct Researcher**, KACST-UCSD Center of Excellence in Nanomedicine (CENM), King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia.
- 2013 – Present** **Assistant Professor**, College of Pharmacy, King Saud University, P.O. Box 2457, Riyadh 11451, Saudi Arabia.
- 2009 –2013** **Graduate Research Assistant**, Macromolecular and Vaccine Stabilization Center, Department of Pharmaceutical Chemistry, University of Kansas, Lawrence, KS 66045, USA.
- 2007 –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.
- June-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 AND SKILLS

- Physicochemical characterization of therapeutic proteins and VLP Vaccines in respect to their structure, conformation and stability.
- Biosimilarity and comparability analysis of therapeutic proteins.
- Protein glycosylation analysis.
- Biophysical and Biochemical characterization and formulation development of biotherapeutics and vaccines using spectroscopic, electrophoretic and chromatographic technologies.
- Evaluation of the stability profile of proteins under various stresses (freeze-thaw, heat and pH) for their development as biological drug candidate.
- Protein production using *E. coli* (protein A) and *Pichia Pastoris* (IgG1-Fc) expression systems.
- Protein purification using affinity, ionic and hydrophobic interaction chromatography.

REASERCH PROJECTS

July 2016 – July 2017

Project Title: “Evaluation of Insulin’s Potency and Structural Integrity Across Different Parts of Saudi Arabia” Funded by: Deanship of Scientific Research, 70,000 SR.

Dec 2014 – Dec 2016

Project Title: “Elucidation of unfolding-refolding mechanism of wild type and mutants of camel eye lens protein zeta-crystallin” Funded by: National Science, Technology and Innovation Plan (NSTIP), 1,857,000 SR

May 2012 – May 2013

Project Title: “Characterization, Stabilization, and Development of an arginine free formulation of a TNF receptor 2-Fc fusion protein, a candidate biosimilar form of Enbrel®” Funded by: Merck

ADMINISTRATIVE EXPERIENCE

- Jan 2016 – Present** **Director**, of the Research Center, College of Pharmacy, King Saud University.
- Dec 2015 – Present** **Director**, Vaccines and Biologics Research Unit (VBRU), College of Pharmacy, King Saud University.
- Oct 2015 – Present** **Chairmen**, Higher education committee, Department of Pharmaceutics, College of Pharmacy, King Saud University.
- Aug 2014 – Dec 2015** **Chairman**, Academic committee, College of Pharmacy, King Saud University.
- Aug 2014 – Dec 2015** **Chairman**, Safety Committee, Department of Pharmaceutics, College of Pharmacy, King Saud University.
- Aug 2014 – Oct 2015** **Chairman**, Laboratory Supplies Committee, Department of Pharmaceutics, College of Pharmacy, King Saud University.
- Aug 2014 – Oct 2015** **Member**, Department representative in quality and accreditation committee. Department of Pharmaceutics, College of Pharmacy, King Saud University.
- Aug 2014 – Oct 2015** College representative in social services. Department of Pharmaceutics, College of Pharmacy, King Saud University.

TEACHING EXPERIENCE

Graduate Level:

Code	Description	Credit Hours	Level
PHT 626	Advanced Pharmaceutical Biotechnology	2	Ph.D
PHT 616	Stabilization of Biopharmaceuticals	2	Ph.D
PHT 594	Advanced Topics in quality control for pharmaceuticals	3	Master

Undergraduate Level:

Code	Description	Credit Hours	Level
PHT 426	Pharmaceutical Biotechnology	2	Pharm.D
PHT 432	Industrial Pharmacy	4	B. pharm.
PHT 437	Advanced Pharmaceutical Biotechnology	2	Pharm.D
PHG 424	Pharmaceutical Biotechnology	3	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.**; 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.
4. **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.
5. Khan, M.; Tabrez, S.; Rabbani, N.; Oves, M.; Shah, A.; **Alsenaidy, M. A.**; 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.
6. Khan, M. S.; Bhat, S. A.; Tabrez, S.; Alama, M. N.; **Alsenaidy, M. A.**; Al-Senaidy, A. M., Denaturation induced aggregation in α -crystallin: differential action of chaotropes. Journal of Molecular Recognition 2016, n/a-n/a.
7. Ajamaluddin, M.; Mohammed, R.; Nayyar, R.; Abdulrahman, M. A.-S.; **Mohammad, A. A.**, Expression, Purification and Properties of Redox-Sensitive Eye Lens Zeta-Crystallin of Arabian Camel. Protein & Peptide Letters 2016, 23 (6), 573-580.

8. Ajamaluddin Malik, Nayyar Rabbani, Abdulrahman M. Al-Senaigy, **Alsenaidy, M. A.** In silico structural modelling, phylogenetic, physio-chemical and structural properties of novel eye lens Zeta-crystallin. (Submitted).
9. Ajamaluddin Malik, **Alsenaidy, M. A.** Spectroscopic / thermodynamic characterization and the influence of metal ions on the protease activity of MERS-CoV papain-like protease (PLpro). (Submitted)

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

- 2013** Top Downloadable 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”
- 2011** Honors in master’s degree general exam.
- 2009** Saudi Arabia Governmental Scholarship for Graduate Studies, King Saud University, Riyadh, Saudi Arabia.