



CURRICULUM VITAE

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

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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 Comparability Studies”

Mentor: Prof. David Volkin (Ronald T. Borchardt 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.
- July, 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.

Jan – Oct, 20014 New Faculty Orientation and Preparation Program, Accredited by SEDA. King Saud University.

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

- Produced recombinant proteins (IgG1-Fc, Protein A, Zeta-Crystallin, MERS-CoV PL^{pro}) in yeast and bacterial expression systems.
- Optimized protein yields during purification using various chromatographic methods.
- Characterized proteins using biophysical, biochemical, chromatographic, and electrophoretic methodologies.
- Evaluated the stability profile of various biotherapeutics under stress conditions (freeze-thaw, heat, agitation and pH).
- Developed high throughput excipient screening assays for fusion protein formulation.
- Performed formulation development studies on biotherapeutics including mAbs and fusion proteins.
- Developed in-vitro assays for the screening of hit molecules against MERS-CoV protease.

FUNDED 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

Jul 2016 – Present **Member**, research ethics committee, King Saud University.

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, 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. Mohammad S. Khan, Nayyar Rabbani, Shams Tabrez, Badar Ul Islam, Ajamaluddin Malik, Anwar Ahmed, **Mohammad A. Alsenaidy**, Abdulrahman M. Alsenaidy., Glycation Induced Generation of Amyloid Fibril Structures by Glucose Metabolites. *Protein & Peptide Letters* 2016, 23 (10), 892-897.
8. 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.
9. Ajamaluddin Malik, Nayyar Rabbani, Abdulrahman M. Al-Senaidy, **Alsenaidy, M. A.** In silico structural modelling, phylogenetic, physio-chemical and structural properties of novel eye lens Zeta-crystallin. (Submitted).
10. Ajamaluddin Malik, **Alsenaidy, M. A.** MERS-CoV papain-like protease (PLpro): Expression, Purification and Spectroscopic/Thermodynamic Characterization. (Submitted)
11. Khan, Javed Masood, Khan, Mohd, **Alsenaidy, Mohammad**, Al-Shabib, Nasser, khan, rizwan. Sodium louroyl sarcosinate (sarkosyl) modulate amyloid fibril formation in lysozyme at alkaline pH: A molecular insight study (Submitted)
12. Javed Khan, Mohd Shahnawaz Khan, Mohd Sajid Ali, Abdulrahman M. Al-Senaidy, **Mohammad A. Alsenaidy**, Fohad Mabood Husain, Hamad A. Al-Lohedan. Synthetic Food Additive Dye “Tartrazine” Triggers Amorphous Aggregation in Cationic Myoglobin. (Submitted)

PRESENTATIONS AND ABSTRACTS

1. **MOHAMMAD A. ALSENAIDY**, Physiochemical Characterization of Biologics and Biosimilars. Biologics, where are we now conference, Oct, 2016, Bahrain.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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.
7. **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

- American Association of Pharmaceutical Scientists (AAPS).
- Saudi Pharmaceutical Society (SPS).
- California Separation Science Society (CASSS).
- American Society for Virology (ASV).