

Faculty Portfolio

Dr. Mohammad Khalid

Assistant Professor
Pharmaceutics Department
College of Pharmacy
King Khalid University
Email: mmabood@kku.edu.sa
Phone: +966505739769

Education:

Year of Graduation	Qualifications (Specializations if any)	University/College, Country
2013	Ph.D. (Molecular Virology)	Department of Molecular Virology, University Medical Centre, University of Ulm, Ulm, Germany
2002	M.Sc. (Biotechnology)	Department of Biotechnology, Faculty of Science, Hamdard University, New Delhi, India
2000	B.Sc. Hons. (Botany)	Department of Botany, Faculty of Science, AMU, Aligarh, India

Professional experience:

Year	Positions	University/College, Country
April, 2018 - present	Assistant Professor	College of Pharmacy, King Khalid University, Abha, KSA
July, 2013 - March, 2016	Post-Doctoral Fellow	Division of Molecular Virology, IKE, Linköping University, Linköping, Sweden
January 2013 - June 2013	Post-Doctoral Fellow	Fraunhofer Institute for Molecular Biology and Applied Ecology (IME), Aachen, Germany

Community service activities:

Year	Positions & Name of the Project	University/Company, Country
2015-2016	Participated in the strategic research area MIIC courses	IKE, Linköping University, Linköping, Sweden
February, 2015	Bioinformatic data Analysis course	SciLife Lab, Uppsala, Sweden

Academic/research awards:

Year/Duration of Award	Name of the Award	University/Company, Country
2008-2012	Research grants from Elisabeth Glaser AIDS Foundation	Los Angeles, CA 90025, USA
2003	All India Rank 37th in Graduate Aptitude Test in Engineering (GATE)	Department of Higher Education, Ministry of Human Resources Development, India.

Workshops/ Trainings:

Year	Title	University/Company, Country
March 2020	Faculty Development Day	King Khalid University. Abha, Saudi Arabia
May-2018.	SPSS analysis	King Khalid University. Abha, Saudi Arabia
April, 2010	Oral presentation RETROVIRUSES	Cold Spring Harbour Laboratory, USA
19 to 21 June 2023	Next Generation Sequencing Data Analysis	Nano Science and Technology Consortium, India

Research interests:

- COVID-19, SARS-CoV-2
- RNA Viruses
- Antibiotic resistant Bacteria
- Viral Immunology
- Molecular Biology

Teaching experience:

- Teaching Microbiology and Immunology to Bachelor of Pharmacy and Doctor of Pharmacy students at the King Khalid University in Abha, Saudi Arabia. 2018- till date.
- Taught basics of HIV immunology to Master students in Infection Biology and Molecular Virology courses at the University of Linköping. 2013-2016.

Professional membership:

Year	Name of the professional Body	Role
2014-ongoing	National doctoral programme in infection and antibiotics, MIMS (Laboratory for Molecular Infection Medicine Sweden, Umeå University).	Member
2009-ongoing	The German Society for Virology (GFV), Germany	Member

Research grants:

Year/Duration of Grant	Title of the Project	Awarding Body
June, 2020-December, 2020	Identification of conserved nucleotide sequences in 2019-nCoV genome. King Khalid University deanship research grant.	Deanship of Research, KKU, Abha, KSA
2022-2023/ One year	Bioinformatics analysis of differentially expressed genes	Deanship of Research, KKU, Abha, KSA
2023-2024/ One Year	Genome wide analysis of pathogens	Deanship of Research, KKU, Abha, KSA

Publications:

- Priya, Ashique S, Afzal O, **Khalid M**, Faruque Ahmad M, Upadhyay A, Kumar S, Garg A, Ramzan M, Hussain A, Altamimi MA, Altamimi ASA, Webster TJ, Khanam A. Biogenic nanoparticles from waste fruit peels: Synthesis, applications, challenges and future perspectives. *Int J Pharm.* 2023 Aug 25;643:123223. doi: 10.1016/j.ijpharm.2023.123223. Epub 2023 Jul 11. PMID: 37442399.
- Khan M, Shah SR, Khan F, Halim SA, Rahman SM, **Khalid M**, Khan A, Al-Harrasi A. Efficient Synthesis with Green Chemistry Approach of Novel Pharmacophores of Imidazole-Based Hybrids for Tumor Treatment: Mechanistic Insights from In Situ to In Silico. *Cancers (Basel).* 2022 Oct 17;14(20):5079. doi: 10.3390/cancers14205079. PMID: 36291864; PMCID: PMC9600394.
- Mohammad Khalid**, David Murphy, Maryam Shoai, Jonahunnatha Nesson George-William and Yousef Al-ebini. "Geographical distribution of host's specific SARS-CoV-2 mutations in the early phase of the COVID-19 pandemic". *Gene* 851 (2023) 147020.
- Sumera Zaib, Nehal Rana, Areeba, Nadia Hussain, Hamad Alrbyawi, Ayed A. Dera, Imtiaz Khan, **Mohammad Khalid**, Ajmal Khan, Ahmed Al-Harrasi. "Designing multi-epitope monkeypox virus-specific vaccine using immunoinformatics approach". *Journal of Infection and Public Health*, Volume 16, Issue 1, 2023, 107-116. <https://doi.org/10.1016/j.jiph.2022.11.033>.
- Norhan S Sheraba, Khalid Oryaj, Ali Alqahtani, Rehab H El-sokkary and **Mohammad Khalid**. "A questionnaire-based cross-sectional survey on knowledge, attitudes, and practices towards COVID-19 among students and staff in Asir, Saudi Arabia during the second wave of the pandemic". *Vaccines* 10: 2014. <https://doi.org/10.3390/vaccines10122014>
- Mohammad Khalid**. "Host independent deletion hotspots in the SARS-CoV-2 genome". *bioRxiv* 2022.10.16.512395; doi: <https://doi.org/10.1101/2022.10.16.512395> (under review).

7. **Mohammad Khalid**, David Murphy, Maryam Shoai and Yousef Al-ebini. “Geographical distribution of host's specific SARS-CoV-2 mutations in the early phase of the COVID-19 pandemic”. **Gene** 851 (2023) 147020.
8. **Mohammad Khalid**, Anas Alshishani, and Yousef Al-ebini. 2022. "Genome Similarities between Human-Derived and Mink-Derived SARS-CoV-2 Make Mink a Potential Reservoir of the Virus". **Vaccines** 10, no. 8: 1352. <https://doi.org/10.3390/vaccines10081352>.
9. Cecilia Svanberg, Rada Ellegård, Elisa Crisci, **Mohammad Khalid**, Ninnie Borendal Wodlin, Maria Svenvik, Sofia Nyström, Kenzie Birse, Adam Burgener, Esaki M. Shankar and Marie Larsson. Complement-Opsonized HIV Modulates Pathways Involved in Infection of Cervical Mucosal Tissues: A Transcriptomic and Proteomic Study. **Frontiers in Immunology**, 1 May 2021, 12, 625649. doi:10.3389/fimmu.2021.625649
10. Pradyot Bhattacharya, Rada Ellegård, **Mohammad Khalid**, Åsa V. Keita, Johan D. Söderholm, Pär Myrelid, Esaki M. Shankar, Sofia Nyström, Marie Larsson. “Complement opsonization of HIV affects early events during primary HIV infection of colorectal mucosa and subsequent activation of T cells”. **eLife**, September, 2, 2020.
11. Elisa Crisci, Cecilia Svanberg, Rada Ellegard, **Mohammad Khalid**, Julia Hellblom, Kazuki Okuyama, Pradyot Bhattacharya, Sofia Nyström, Esaki M Shankar, Kristina Eriksson, Marie Larsson. “HSV-2 cellular programming enables productive HIV infection in dendritic cells”. **Frontiers in Immunology**, 2019 Dec. (doi.org/10.3389/fimmu.2019.02889).
12. Rada Ellegård, **Mohammad Khalid**, Cecilia Svanberg, Hanna Holgersson, Ylva Thorén, Mirja Wittgren, Jorma Hinkula, Sofia Nyström, Esaki M. Shankar and Marie Larsson. “Complement-Opsonized HIV-1 Alters Cross-Talk between Dendritic Cells and NK Cells to Inhibit the Killing Potentials of NK Cells, and Induces the Upregulation of PD-1, CXCR3, and CCR4 on T Cells”. **Frontiers in Immunology**, 2018 Apr;9: 899.
13. Hangxing Yu, **Mohammad Khalid**, Anke Heigele, Jan Schmökel, Shariq Usmani, Johannes van der Merwe, Jan Münch, Guido Silvestri and Frank Kirchhoff. “Lentiviral Nef proteins manipulate CD4+T cells in a subset-specific manner”. **Journal of Virology**, 2015 Feb 15;89(4):1986-2001.
14. David Palesch, **Mohammad Khalid**, Christina Stürzel and Jan Münch. “Prevention of contamination by xenotropic murine leukemia virus-related virus: susceptibility to alcohol-based disinfectants and environmental stability”. **J Appl Environ Microbiol.**, 2014 Apr;80(8):2617-22.
15. Christina Stürzel*, David Palesch*, **Mohammad Khalid***, Silke Wissing, Nicole Fischer, and Jan Münch. “Utilization of replication-competent XMRV reporter-viruses shows severe viral restriction in primary human cell types”. **PLoS One**, 2013 Sep 13;8(9):e74427. (*equal contribution)
16. Hangxing Yu, Shariq M. Usmani, Alexandra Borch, Julia Krämer, Christina Stürzel, **Mohammad Khalid**, Xuehua Li, Daniela Krnavek, Marchina E. van der Ende, Albert D. Osterhaus, Rob A. Gruters, and Frank Kirchhoff. “The efficiency of Vpx-mediated SAMHD1 antagonism does not correlate with the potency of viral control in HIV-2-infected individuals”. **Retrovirology**, 2013 Mar 5;10:27
17. **Mohammad Khalid**, Hangxing Yu, Daniel Sauter, Shariq M. Usmani, Jan Schmokel, Jerome Feldmann, Rob A. Gruters, Marchina E. van der Ende, Matthias Geyer, Sarah Rowland-Jones, Albert D. Osterhaus, and Frank Kirchhoff. “Efficient Nef-Mediated Down-modulation of TCR-

CD3 and CD28 is Associated with High CD4+ T Cell Counts in Viremic HIV-2 Infection”. **Journal of Virology**, 2012 May; 86(9):4906-20

18. Nucleotide sequence submission. Determined HIV-2 nef sequences have been deposited in **GenBank** under accession numbers JQ746624 through JQ746644
19. Michael Schindler, Jan Schmökel, Anke Specht, Hui Li, Jan Münch, **Mohammad Khalid**, Donald L. Sodora, Beatrice H. Hahn, Guido Silvestri, and Frank Kirchhoff. “Inefficient Nef-Mediated Downmodulation of CD3 and MHC-I Correlates with Loss of CD4+ T Cells in Natural SIV Infection”. **PLoS Pathogen**, 2008 July; 4(7): e1000107
20. Shweta Dubey, **Mohammad Khalid**, Clement Wesley, Sameer Ali Khan, Ajay Wanchu and Shahid Jameel. "Downregulation of CCR5 on activated CD4 T cells in HIV-infected Indians" **Journal of Clinical Virology**, 2008 Sep;43(1):25-31
21. Amjad Hussain, Clement Wesley, **Mohammad Khalid**, Ashutosh Chaudhry and Shahid Jameel. “Human immunodeficiency virus type 1 Vpu protein interacts with CD74 and modulates major histocompatibility complex class II presentation”. **Journal of Virology**, 2008 Jan;82(2):893-902

Conference attendance/presentations:

1. Presented poster in Gesellschaft für Virologie meeting in Freiburg, Germany in 2011.
 2. Presented poster in 4th European Congress of Virology / Annual Spring Meeting of Gesellschaft für Virologie-2010 in Cernobbio, Lake Como, Italy in 2010.
 3. Presented poster in Gesellschaft für Virologie meeting in Leipzig, Germany in 2009.
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