

Asst. Prof. Ahmed Sayed Ibrahim ALY

Personal Information

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Education Information

Doctorate, Ruprecht-Karls-Universitaet Heidelberg, Germany 2001 - 2005

Postgraduate, Universitaet Ulm, Germany 1998 - 2001

Undergraduate, Ain Shams University, Egypt 1991 - 1995

Foreign Languages

German, C1 Advanced

English, C2 Mastery

Arabic, C2 Mastery

Dissertations

Doctorate, Functional Characterization of two novel essential malarial genes by reverse genetics, Ruprecht-Karls-Universitaet Heidelberg, 2005

Postgraduate, Parasitization behavior and competition between two egg parasitoid species of Trichogramma (Hymenoptera: Trichogrammatidae), Universitaet Ulm, 2001

Research Areas

Life Sciences, Biotechnology, Microbiology, Molecular Biology and Genetics

Academic Titles / Tasks

Assistant Professor, Bezmialem Vakif University, Life Sciences And Biotechnology Institute, Department of Microbiology, 2018 - Continues

Advising Theses

Aly A. S. I. , Functional Characterization of the Serine Repeat Antigen 4 (SERA4) and Serine Repeat Antigen 5 (SERA5) Double Gene Knockout in Plasmodium yoelii, Postgraduate, Y.Alruwaili(Student), 2017

Aly A. S. I. , Heat Shock Proteins in Plasmodium, stress response associated with drug resistance and drug target potential, Doctorate, C.Murillo(Student), 2017

Aly A. S. I. , Molecular Approaches to the Evaluation and Improvement of Malaria Control, Doctorate, T.Thompson(Student), 2017

Aly A. S. I. , Characterization of Plasmodium sp. Serpentine Receptor 10 as a Potential Vaccine Candidate, Postgraduate,

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Synthetic DNA Vaccines Adjuvanted with pIL-33 Drive Liver-Localized T Cells and Provide Protection from *Plasmodium* Challenge in a Mouse Model.**
Reeder S., Reuschel E., Bah M., Yun K., Tursi N., Kim K., Chu J., Zaidi F., Yilmaz I., Hart R., et al.
Vaccines, vol.8, 2020 (Journal Indexed in SCI)
- II. **Highly Sensitive and Rapid Characterization of the Development of Synchronized Blood Stage Malaria Parasites Via Magneto-Optical Hemozoin Quantification**
Pukancsik M., Molnar P., Orban A., Butykai A., Marton L., Kezsmarki I., Vertessy B. G., KAMIL M., Abraham A., ALY A. S. I.
BIOMOLECULES, vol.9, no.10, 2019 (Journal Indexed in SCI)
- III. **Phenotypic Analysis of Rodent Malaria Parasite Asexual and Sexual Blood Stages and Mosquito Stages**
Aly A. S. I., Deveci G., Yilmaz I., Abraham A., Golshan A., Hart R. J.
JOVE-JOURNAL OF VISUALIZED EXPERIMENTS, no.147, 2019 (Journal Indexed in SCI)
- IV. **The antimalarial activity of the pantothenamide alpha-PanAm is via inhibition of pantothenate phosphorylation**
Chiu J. E., Thekkiniath J., Choi J., Perrin B. A., Lawres L., Plummer M., Virji A. Z., Abraham A., Toh J. Y., Van Zandt M., et al.
SCIENTIFIC REPORTS, vol.7, 2017 (Journal Indexed in SCI)
- V. **Multifunctional Involvement of a C2H2 Zinc Finger Protein (PbZfp) in Malaria Transmission, Histone Modification, and Susceptibility to DNA Damage Response**
Gopalakrishnan A. M., Aly A. S. I., Aravind L., Kumar N.
MBIO, vol.8, no.4, 2017 (Journal Indexed in SCI)
- VI. **Genetic Characterization of Coenzyme A Biosynthesis Reveals Essential Distinctive Functions during Malaria Parasite Development in Blood and Mosquito**
Hart R. J., Abraham A., Aly A. S. I.
FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY, vol.7, 2017 (Journal Indexed in SCI)
- VII. **Genetic Characterization of Plasmodium Putative Pantothenate Kinase Genes Reveals Their Essential Role in Malaria Parasite Transmission to the Mosquito**
Hart R. J., Cornillot E., Abraham A., Molina E., Nation C. S., Ben Mamoun C., Aly A. S. I.
SCIENTIFIC REPORTS, vol.6, 2016 (Journal Indexed in SCI)
- VIII. **Plasmodium AdoMetDC/ODC bifunctional enzyme is essential for male sexual stage development and mosquito transmission**
Hart R. J., Ghaffar A., Abdalal S., Perrin B., Aly A. S. I.
BIOLOGY OPEN, vol.5, no.8, pp.1022-1029, 2016 (Journal Indexed in SCI)
- IX. **A Plasmodium /-hydrolase modulates the development of invasive stages**
Groat-Carmona A. M., Kain H., Brownell J., Douglass A. N., Aly A. S. I., Kappe S. H. I.
CELLULAR MICROBIOLOGY, vol.17, no.12, pp.1848-1867, 2015 (Journal Indexed in SCI)
- X. **Plasmodium yoelii Vitamin B-5 Pantothenate Transporter Candidate is Essential for Parasite Transmission to the Mosquito**
Hart R. J., Lawres L., Fritzen E., Ben Mamoun C., Aly A. S. I.
SCIENTIFIC REPORTS, vol.4, 2014 (Journal Indexed in SCI)
- XI. **A systematic analysis of the early transcribed membrane protein family throughout the life cycle of Plasmodium yoelii**
MacKellar D. C., Vaughan A. M., Aly A. S. I., DeLeon S., Kappe S. H. I.
CELLULAR MICROBIOLOGY, vol.13, no.11, pp.1755-1767, 2011 (Journal Indexed in SCI)
- XII. **Superior Antimalarial Immunity after Vaccination with Late Liver Stage-Arresting Genetically**

Attenuated Parasites

Butler N. S. , Schmidt N. W. , Vaughan A. M. , Aly A. S. I. , Kappe S. H. I. , Harty J. T.
CELL HOST & MICROBE, vol.9, no.6, pp.451-462, 2011 (Journal Indexed in SCI)

- XIII. **SAP1 is a critical post-transcriptional regulator of infectivity in malaria parasite sporozoite stages**
Aly A. S. I. , Lindner S. E. , MacKellar D. C. , Peng X. , Kappe S. H. I.
MOLECULAR MICROBIOLOGY, vol.79, no.4, pp.929-939, 2011 (Journal Indexed in SCI)
- XIV. **Subpatent infection with nucleoside transporter 1-deficient Plasmodium blood stage parasites confers sterile protection against lethal malaria in mice**
Aly A. S. I. , Downie M. J. , Ben Mamoun C. , Kappe S. H. I.
CELLULAR MICROBIOLOGY, vol.12, no.7, pp.930-938, 2010 (Journal Indexed in SCI)
- XV. **Plasmodium falciparum PF10_0164 (ETRAPM10.3) Is an Essential Parasitophorous Vacuole and Exported Protein in Blood Stages**
MacKellar D. C. , O'Neill M. T. , Aly A. S. I. , Sacci J. B. , Cowman A. F. , Kappe S. H. I.
EUKARYOTIC CELL, vol.9, no.5, pp.784-794, 2010 (Journal Indexed in SCI)
- XVI. **Preerythrocytic, live-attenuated Plasmodium falciparum vaccine candidates by design**
VanBuskirk K. M. , O'Neill M. T. , De la Vega P. , Maier A. G. , Krzych U. , Williams J. , Dowler M. G. , Sacci J. B. , Kangwanrangsan N. , Tsuboi T. , et al.
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol.106, no.31, pp.13004-13009, 2009 (Journal Indexed in SCI)
- XVII. **Type II fatty acid synthesis is essential only for malaria parasite late liver stage development**
Vaughan A. M. , O'Neill M. T. , Tarun A. S. , Camargo N. , Phuong T. M. , Aly A. S. I. , Cowman A. F. , Kappe S. H. I.
CELLULAR MICROBIOLOGY, vol.11, no.3, pp.506-520, 2009 (Journal Indexed in SCI)
- XVIII. **Malaria Parasite Development in the Mosquito and Infection of the Mammalian Host**
Aly A. S. I. , Vaughan A. M. , Kappe S. H. I.
ANNUAL REVIEW OF MICROBIOLOGY, vol.63, pp.195-221, 2009 (Journal Indexed in SCI)
- XIX. **Distinct malaria parasite sporozoites reveal transcriptional changes that cause differential tissue infection competence in the mosquito vector and mammalian host**
Mikolajczak S. A. , Silva-Rivera H. , Peng X. , Tarun A. S. , Camargo N. , Jacobs-Lorena V. , Daly T. M. , Bergman L. W. , de la Vega P. , Williams J. , et al.
MOLECULAR AND CELLULAR BIOLOGY, vol.28, no.20, pp.6196-6207, 2008 (Journal Indexed in SCI)
- XX. **Malaria parasite pre-erythrocytic stage infection: Gliding and hiding**
Vaughan A. M. , Aly A. S. I. , Kappe S. H. I.
CELL HOST & MICROBE, vol.4, no.3, pp.209-218, 2008 (Journal Indexed in SCI)
- XXI. **Targeted deletion of SAP1 abolishes the expression of infectivity factors necessary for successful malaria parasite liver infection**
Aly A. S. I. , Mikolajczak S. A. , Rivera H. S. , Camargo N. , Jacobs-Lorena V. , Labaied M. , Coppens I. , Kappe S. H. I.
MOLECULAR MICROBIOLOGY, vol.69, no.1, pp.152-163, 2008 (Journal Indexed in SCI)
- XXII. **An efficient strategy for gene targeting and phenotypic assessment in the Plasmodium yoelii rodent malaria model**
Mikolajczak S. A. , Aly A. S. I. , Dumpit R. F. , Vaughan A. M. , Kappe S. H. I.
MOLECULAR AND BIOCHEMICAL PARASITOLOGY, vol.158, no.2, pp.213-216, 2008 (Journal Indexed in SCI)
- XXIII. **Preerythrocytic malaria vaccine development**
Mikolajczak S. A. , Aly A. S. I. , Kappe S. H. I.
CURRENT OPINION IN INFECTIOUS DISEASES, vol.20, no.5, pp.461-466, 2007 (Journal Indexed in SCI)
- XXIV. **A malarial cysteine protease is necessary for Plasmodium sporozoite egress from oocysts**
Aly A. S. I. , Matuschewski K.
JOURNAL OF EXPERIMENTAL MEDICINE, vol.202, no.2, pp.225-230, 2005 (Journal Indexed in SCI)

Refereed Congress / Symposium Publications in Proceedings

- I. **Small Liver Stage Exported Proteins as Promising Malaria Subunit and DNA Vaccine Candidates**
ALY A. S. I.
The 12th Annual BioMalPar conference in Heidelberg, Germany. (2016), 18 - 20 May 2016
- II. **Characterization of Coenzyme A Biosynthesis Pathway during Plasmodium Development in Blood and Mosquito**
ALY A. S. I.
Annual Meeting of the American Society of Tropical Medicine and Hygiene, New Orleans, USA, 2 - 06 November 2014
- III. **"Polyamine biosynthesis enzymes are critical for the development of the malaria parasite in the mammalian and mosquito hosts**
ALY A. S. I.
Annual Meeting of the American Society of Tropical Medicine and Hygiene, Washington DC, USA, 13 - 17 November 2013
- IV. **Targeted deletion of a Plasmodium metabolite membrane transporter inhibits malaria parasite transmission to the mosquito vector**
ALY A. S. I.
Keystone Malaria Symposium in New Orleans, USA, 20 - 25 January 2013
- V. **Recent Advances in Malaria Vaccine development**
ALY A. S. I.
The Second Congress of the Federation of Arab Societies of Clinical Microbiology and Infectious Diseases, Hammamat, Tunisia, 24 - 26 May 2012
- VI. **Subpatent infection with Nucleoside Transporter 1 deficient plasmodium blood stage parasites confers sterile protection against lethal malaria in mice**
ALY A. S. I.
The 6th annual conference for the Saudi Society of Medical Microbiology Infectious Diseases In Jeddah, Saudi Arabia., 17 - 20 September 2011
- VII. **"SAP1 is a selective master regulator of malaria parasite liver infection**
ALY A. S. I.
The Sixth Annual BioMalPar conference in Heidelberg, Germany., 3 - 05 May 2010
- VIII. **SAP1 is a selective master regulator of malaria parasite liver infections**
ALY A. S. I.
The Annual Seattle Parasitology Meeting in Seattle, USA., 19 - 22 July 2009
- IX. **Plasmodium sporozoites lacking an asparagine rich protein fail to establish liver stage infection and elicit sterile immunity against malaria**
ALY A. S. I.
Annual Meeting of the American Society of Tropical Medicine and Hygiene, Philadelphia, USA, 4 - 08 November 2007
- X. **Targeted deletion of a Plasmodium bacterial-type amino acid decarboxylase abolishes malaria parasite transmission to the mosquito vector**
ALY A. S. I.
Annual Meeting of the American Society of Tropical Medicine and Hygiene, Washington DC, USA, 11 - 15 December 2005
- XI. **De novo polyamine biosynthesis is crucial for Plasmodium transmission to the mosquito vector**
ALY A. S. I.
Molecular Parasitology Meeting XVI, 01 September 2005
- XII. **A malarial cysteine protease is necessary for Plasmodium sporozoite egress from oocysts**
ALY A. S. I.
Molecular Parasitology Meeting XVI, 01 September 2005
- XIII. **UIS2, a new Plasmodium candidate for multistage drug targeting**
Aly A. S. I., Janse C., Waters A., Matuschewski K.

21st Congress of the German-Society-of-Parasitology, Würzburg, Germany, 17 - 20 March 2004, vol.293, pp.86-87

XIV. Identification of Plasmodium secretory proteins that are specifically upregulated in salivary gland sporozoites new vaccine candidates for the pre-erythrocytic malaria stages

ALY A. S. I.

Joint Annual Meeting of the German and Dutch Societies for Parasitology (DGP, NVP), 01 September 2002

Supported Projects

Aly A. S. I. , TUBITAK Project, Karaciğer Evresindeki Sıtma Parazitleri Eksportom Proteinlerinin İşlevsel Karakterizasyonu., 2020 - 2023

Aly A. S. I. , Project Supported by Higher Education Institutions, Multiplex Targeting of CRISPR/Cas9 System by Using Ribozymes for Multiple Gene Editing in Rodent Malaria Parasites Plasmodium berghei and Plasmodium yoelii., 2020 - 2021

Aly A. S. I. , Kına Ü. Y. , Project Supported by Higher Education Institutions, Multiplex targeting of CRISPR/Cas9 system by using ribozymes for multiple gene editing in rodent malaria parasites; Plasmodium berghei and Plasmodium yoelii, 2020 - 2021

Akbaş F., Aly A. S. I. , Project Supported by Higher Education Institutions, Genetic characterization of DNA photolyase gene in rodent malaria parasite using Crispr-Cas9 genome editing technology, 2019 - 2020

Aly A. S. I. , Project Supported by Higher Education Institutions, Recombinant protein expression of conserved plasmodium egress proteins as targets for the development of novel malaria therapy vaccines and diagnostic reagents, 2018 - 2019

Aly A. S. I. , Project Supported by Higher Education Institutions, Establishing the CRISPR/Cas9 platform to generate live attenuated malaria vaccines by deleting essential malarial genes, 2018 - 2019

Aly A. S. I. , Other Supported Projects, DNA-Vaccination against Plasmodium Liver Stage Exported Proteins in Presence of Prior SIV Infection., 2015 - 2018

Aly A. S. I. , Other Supported Projects, Selection of the Determinants of Plasmodium Sporozoite Infectivity and Motility., 2015 - 2017

Activities in Scientific Journals

Scientific Reports, Editor, 2014 - Continues

Citations

Total Citations (WOS):1148

h-index (WOS):15