

Stanford



Upinder Singh

Professor of Medicine (Infectious Diseases & Geographic Medicine) and of
Microbiology and Immunology
Medicine - Infectious Diseases

CLINICAL OFFICES

- **Infectious Disease Clinic**

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Bio

CLINICAL FOCUS

- Infectious Disease
- Infectious Diseases

ACADEMIC APPOINTMENTS

- Professor, Medicine - Infectious Diseases
- Professor, Microbiology & Immunology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Associate Chair, Faculty Development, Department of Medicine, (2020- present)
- Division Chief, Infectious Diseases and Geographic Medicine, (2010- present)
- Fellowship Co-Director, Division of Infectious Diseases, (2008-2013)

HONORS AND AWARDS

- Member, ASCI (2010)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Fellow, Center for Innovation in Global Health, Stanford University (2015 - present)

PROFESSIONAL EDUCATION

- Board Certification: Infectious Disease, American Board of Internal Medicine (1998)
- Medical Education: Ohio State University College of Medicine Registrar (1992) OH

- Residency: University of Virginia Health System (1995) VA
- Fellowship: University of Virginia School of Medicine (1998) VA
- Internship: University of Virginia Health System (1993) VA
- BS, Ohio State University , Biochemistry (1987)
- MD, Ohio State University , Medicine (1992)

COMMUNITY AND INTERNATIONAL WORK

- Investigating *E. histolytica* genetic diversity, Bangladesh and Georgia

LINKS

- Singh lab website: <http://singhlab.stanford.edu/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Dr Singh studies the molecular basis of pathogenesis of a medically important parasite, *Entamoeba histolytica*. The work is aimed at understanding the virulence determinants that *E. histolytica* utilizes in causing invasive colonic and hepatic disease. Using a combination of genetic and genomic approaches we are identifying novel mechanisms that the parasite has developed for invading the human host. Additionally, we study the epidemiological trends of of amebic infection, with the goal of identifying a parasite molecular signature that correlates with invasive potential.

CLINICAL TRIALS

- ACTIV-2: A Study for Outpatients With COVID-19, Recruiting
- ACTIV-6: COVID-19 Study of Repurposed Medications, Recruiting
- COVID-19 Outpatient Pragmatic Platform Study (COPPS) - Master Protocol, Recruiting
- Safety, Tolerability, and Efficacy of Anti-Spike (S) SARS-CoV-2 Monoclonal Antibodies for the Treatment of Ambulatory Adult and Pediatric Patients With COVID-19, Recruiting
- Understanding the Long-term Impact of COVID-19 in Adults, Recruiting
- Oral Camostat Compared With Standard Supportive Care in Mild-Moderate COVID-19 Patients, Not Recruiting
- Oral Favipiravir Compared to Placebo in Subjects With Mild COVID-19, Not Recruiting
- Single-Blind Study of a Single Dose of Peginterferon Lambda-1a Compared With Placebo in Outpatients With Mild COVID-19, Not Recruiting

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Debabrata Chowdhury, Daniela Lozano Amado, Yasuaki Yanagawa

Postdoctoral Research Mentor

Daniela Lozano Amado, Yasuaki Yanagawa

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Medicine (Masters Program)
- Microbiology and Immunology (Phd Program)

Publications

PUBLICATIONS

- **TNF- α + CD4+ T cells dominate the SARS-CoV-2 specific T cell response in COVID-19 outpatients and are associated with durable antibodies.** *Cell reports. Medicine*
van der Ploeg, K., Kiroosingh, A. S., Mori, D. A., Chakraborty, S., Hu, Z., Sievers, B. L., Jacobson, K. B., Bonilla, H., Parsonnet, J., Andrews, J. R., Press, K. D., Ty, M. C., Ruiz-Betancourt, et al
2022: 100640
- **Favipiravir for treatment of outpatients with asymptomatic or uncomplicated COVID-19: a double-blind randomized, placebo-controlled, phase 2 trial.** *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*
Holubar, M., Subramanian, A., Purington, N., Hedlin, H., Bunning, B., Walter, K. S., Bonilla, H., Boumis, A., Chen, M., Clinton, K., Dewhurst, L., Epstein, C., Jagannathan, et al
2022
- **Gastrointestinal symptoms and fecal shedding of SARS-CoV-2 RNA suggest prolonged gastrointestinal infection.** *Med (New York, N.Y.)*
Natarajan, A., Zlitni, S., Brooks, E. F., Vance, S. E., Dahlen, A., Hedlin, H., Park, R. M., Han, A., Schmidtke, D. T., Verma, R., Jacobson, K. B., Parsonnet, J., Bonilla, et al
2022
- **SARS-CoV-2 Neutralizing Monoclonal Antibodies for the Treatment of COVID-19 in Kidney Transplant Recipients.** *Kidney360*
Wang, A. X., Busque, S., Kuo, J., Singh, U., Roeltgen, K., Pinsky, B. A., Chertow, G. M., Scandling, J. D., Lenihan, C. R.
2022; 3 (1): 133-143
- **Early non-neutralizing, afucosylated antibody responses are associated with COVID-19 severity.** *Science translational medicine*
Chakraborty, S., Gonzalez, J. C., Sievers, B. L., Mallajosyula, V., Chakraborty, S., Dubey, M., Ashraf, U., Cheng, B. Y., Kathale, N., Tran, K. Q., Scallan, C., Sinnott, A., Cassidy, et al
1800: eabm7853
- **Antibodies elicited by SARS-CoV-2 infection or mRNA vaccines have reduced neutralizing activity against Beta and Omicron pseudoviruses.** *Science translational medicine*
Sievers, B. L., Chakraborty, S., Xue, Y., Gelbart, T., Gonzalez, J. C., Cassidy, A. G., Golan, Y., Prah, M., Gaw, S. L., Arunachalam, P. S., Blish, C. A., Boyd, S. D., Davis, et al
1800: eabn7842
- **Long Term Accuracy of SARS-CoV-2 Interferon- γ Release Assay and its Application in Household Investigation.** *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*
Murugesan, K., Jagannathan, P., Altamirano, J., Maldonado, Y. A., Bonilla, H. F., Jacobson, K. B., Parsonnet, J., Andrews, J. R., Shi, R. Z., Boyd, S., Pinsky, B. A., Singh, U., Banaei, et al
2022
- **Variation in Severe Acute Respiratory Syndrome Coronavirus 2 Bioaerosol Production in Exhaled Breath.** *Open forum infectious diseases*
Verma, R., Kim, E., Degner, N., Walter, K. S., Singh, U., Andrews, J. R.
2022; 9 (1): ofab600
- **Ponatinib, Lestaurtinib and mTOR/PI3K inhibitors are promising repurposing candidates against Entamoeba histolytica.** *Antimicrobial agents and chemotherapy*
Kangussu-Marcolino, M. M., Singh, U.
2021: AAC0120721
- **New-onset IgG autoantibodies in hospitalized patients with COVID-19.** *Nature communications*
Chang, S. E., Feng, A., Meng, W., Apostolidis, S. A., Mack, E., Artandi, M., Barman, L., Bennett, K., Chakraborty, S., Chang, I., Cheung, P., Chinthrajah, S., Dhingra, et al
2021; 12 (1): 5417
- **RISC in Entamoeba histolytica: Identification of a Protein-Protein Interaction Network for the RNA Interference Pathway in a Deep-Branching Eukaryote.** *mBio*
Zhang, H., Veira, J., Bauer, S. T., Yip, C., Singh, U.
2021: e0154021

- **New-Onset IgG Autoantibodies in Hospitalized Patients with COVID-19**
Chang, S., Feng, A., Meng, W., Apostolidis, S., Mack, E., Artandi, M., Barman, L., Bennett, K., Chakraborty, S., Chang, I., Cheung, P., Chinthrajah, S., Dhingra, et al
WILEY.2021: 3202-3205
- **The COVID-19 Outpatient Pragmatic Platform Study (COPPS): Study design of a multi-center pragmatic platform trial.** *Contemporary clinical trials*
Bunning, B., Hedlin, H., Purington, N., Sundaram, V., Kapphahn, K., Weng, Y., Cunanan, K., Maldonado, Y., Singh, U., Khosla, C., O'Hara, R., Nicolls, M., Springman, et al
2021: 106509
- **Standardized and optimized preservation, extraction and quantification techniques for detection of fecal SARS-CoV-2 RNA.** *medRxiv : the preprint server for health sciences*
Natarajan, A., Han, A., Zlitni, S., Brooks, E. F., Vance, S. E., Wolfe, M., Singh, U., Jagannathan, P., Pinsky, B. A., Boehm, A., Bhatt, A. S.
2021
- **Patients with uncomplicated COVID-19 have long-term persistent symptoms and functional impairment similar to patients with severe COVID-19: a cautionary tale during a global pandemic.** *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*
Jacobson, K. B., Rao, M., Bonilla, H., Subramanian, A., Hack, I., Madrigal, M., Singh, U., Jagannathan, P., Grant, P.
2021
- **Peginterferon Lambda-1a for treatment of outpatients with uncomplicated COVID-19: a randomized placebo-controlled trial.** *Nature communications*
Jagannathan, P. n., Andrews, J. R., Bonilla, H. n., Hedlin, H. n., Jacobson, K. B., Balasubramanian, V. n., Purington, N. n., Kamble, S. n., de Vries, C. R., Quintero, O. n., Feng, K. n., Ley, C. n., Winslow, et al
2021; 12 (1): 1967
- **Standardized preservation, extraction and quantification techniques for detection of fecal SARS-CoV-2 RNA.** *Nature communications*
Natarajan, A., Han, A., Zlitni, S., Brooks, E. F., Vance, S. E., Wolfe, M., Singh, U., Jagannathan, P., Pinsky, B. A., Boehm, A., Bhatt, A. S.
2021; 12 (1): 5753
- **Publisher Correction: Standardized preservation, extraction and quantification techniques for detection of fecal SARS-CoV-2 RNA.** *Nature communications*
Natarajan, A., Han, A., Zlitni, S., Brooks, E. F., Vance, S. E., Wolfe, M., Singh, U., Jagannathan, P., Pinsky, B. A., Boehm, A., Bhatt, A. S.
2021; 12 (1): 7100
- **SARS-CoV-2 subgenomic RNA kinetics in longitudinal clinical samples** *Open Forum Infectious Diseases*
Verma, R., Kim, E., Martinez, G., Jagannathan, ., Rustagi, A., Parsonnet, J., Bonilla, H., Khosla, C., Holubar, M., Subramanian, A., Singh, ., Maldonado, Y., Blish, et al
2021
- **Inflammatory but not respiratory symptoms are associated with ongoing upper airway viral shedding in outpatients with uncomplicated COVID-19.** *Diagnostic microbiology and infectious disease*
Jacobson, K. B., Purington, N., Parsonnet, J., Andrews, J., Balasubramanian, V., Bonilla, H., Edwards, K., Desai, M., Singh, U., Hedlin, H., Jagannathan, P.
2021; 102 (3): 115612
- **Identification of oligo-adenylated small RNAs in the parasite Entamoeba and a potential role for small RNA control.** *BMC genomics*
Zhang, H., Ehrenkauf, G. M., Hall, N., Singh, U.
2020; 21 (1): 879
- **Development of a CRISPR/Cas9 system in Entamoeba histolytica: proof of concept.** *International journal for parasitology*
Kangussu-Marcolino, M. M., Morgado, P., Manna, D., Yee, H., Singh, U.
2020
- **Identification of anisomycin, prodigiosin and obatoclax as compounds with broad-spectrum anti-parasitic activity** *PLOS NEGLECTED TROPICAL DISEASES*
Ehrenkauf, G., Li, P., Stebbins, E. E., Kangussu-Marcolino, M. M., Debnath, A., White, C., Moser, M. S., DeRisi, J., Gisselberg, J., Yeh, E., Wang, S. C., Company, A., Monti, et al
2020; 14 (3)
- **Entamoeba stage conversion: progress and new insights.** *Current opinion in microbiology*
Manna, D. n., Ehrenkauf, G. M., Lozano-Amado, D. n., Singh, U. n.
2020; 58: 62–68

- **The NAD⁺ Responsive Transcription Factor ERM-BP Functions Downstream of Cellular Aggregation and Is an Early Regulator of Development and Heat Shock Response in Entamoeba.** *Frontiers in cellular and infection microbiology*
Manna, D. n., Lozano-Amado, D. n., Ehrenkaufner, G. n., Singh, U. n.
2020; 10: 363
- **Interferon-gamma release assay for accurate detection of SARS-CoV-2 T cell response.** *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*
Murugesan, K. n., Jagannathan, P. n., Pham, T. D., Pandey, S. n., Bonilla, H. F., Jacobson, K. n., Parsonnet, J. n., Andrews, J. R., Weiskopf, D. n., Sette, A. n., Pinsky, B. A., Singh, U. n., Banaei, et al
2020
- **Proinflammatory IgG Fc structures in patients with severe COVID-19** *Nature Immunology*
Chakraborty, S., Gonzales, J., Edwards, K., Mallajosyulla, V., Buzzanco, A. S., Sherwood, R., Buffone, C., Kathale, N., Providenza, S., Xie, M. M., Andrews, J. R., Blish, C. A., Singh, et al
2020
- **Identification of anisomycin, prodigiosin and obatoclax as compounds with broad-spectrum anti-parasitic activity.** *PLoS neglected tropical diseases*
Ehrenkaufner, G. n., Li, P. n., Stebbins, E. E., Kangussu-Marcolino, M. M., Debnath, A. n., White, C. V., Moser, M. S., DeRisi, J. n., Gisselberg, J. n., Yeh, E. n., Wang, S. C., Company, A. H., Monti, et al
2020; 14 (3): e0008150
- **Characterization of extracellular vesicles from Entamoeba histolytica identifies roles in intercellular communication that regulates parasite growth and development.** *Infection and immunity*
Sharma, M. n., Morgado, P. n., Zhang, H. n., Ehrenkaufner, G. n., Manna, D. n., Singh, U. n.
2020
- **Identification of plicamycin, TG02, panobinostat, lestaurtinib, and GDC-0084 as promising compounds for the treatment of central nervous system infections caused by the free-living amebae Naegleria, Acanthamoeba and Balamuthia.** *International journal for parasitology. Drugs and drug resistance*
Kangussu-Marcolino, M. M., Ehrenkaufner, G. M., Chen, E., Debnath, A., Singh, U.
2019; 11: 80–94
- **Functional Characterization of Entamoeba histolytica Argonaute Proteins Reveals a Repetitive DR-Rich Motif Region That Controls Nuclear Localization.** *mSphere*
Zhang, H., Tran, V., Manna, D., Ehrenkaufner, G., Singh, U.
2019; 4 (5)
- **Drug treatment algorithms for water-borne parasitic pathogens**
Singh, U.
AMER CHEMICAL SOC.2019
- **Nuclear Factor Y (NF-Y) Modulates Encystation in Entamoeba via Stage-Specific Expression of the NF-YB and NF-YC Subunits.** *mBio*
Manna, D., Singh, U.
2019; 10 (3)
- **An NAD⁺-dependent novel transcription factor controls stage conversion in Entamoeba.** *eLife*
Manna, D., Lentz, C. S., Ehrenkaufner, G. M., Suresh, S., Bhat, A., Singh, U.
2018; 7
- **Supporting Research Career Development of Physician-Scientists** *JOURNAL OF INFECTIOUS DISEASES*
Singh, U.
2018; 218: S36–S39
- **High-Throughput Screening of Entamoeba Identifies Compounds Which Target Both Life Cycle Stages and Which Are Effective Against Metronidazole Resistant Parasites** *FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY*
Ehrenkaufner, G. M., Suresh, S., Solow-Cordero, D., Singh, U.
2018; 8
- **High-Throughput Screening of Entamoeba Identifies Compounds Which Target Both Life Cycle Stages and Which Are Effective Against Metronidazole Resistant Parasites.** *Frontiers in cellular and infection microbiology*
Ehrenkaufner, G. M., Suresh, S., Solow-Cordero, D., Singh, U.
2018; 8: 276

- **Policy Recommendations for Optimizing the Infectious Diseases Physician-Scientist Workforce.** *The Journal of infectious diseases*
Singh, U., Levy, J., Armstrong, W., Bedimo, R., Creech, C. B., Lautenbach, E., Popovich, K. J., Snowden, J., Vyas, J. M., Infectious Diseases Society of America, H. M.
2018; 218 (suppl_1): S49–S54
- **Development of RNA Interference Trigger-Mediated Gene Silencing in Entamoeba invadens.** *Infection and immunity*
Suresh, S., Ehrenkauf, G., Zhang, H., Singh, U.
2016; 84 (4): 964-975
- **Technical advances in trigger-induced RNA interference gene silencing in the parasite Entamoeba histolytica** *INTERNATIONAL JOURNAL FOR PARASITOLOGY*
Khalil, M. I., Foda, B. M., Suresh, S., Singh, U.
2016; 46 (3): 205-212
- **biology: RNA interference, drug discovery, and gut microbiome.** *F1000Research*
Morgado, P., Manna, D., Singh, U.
2016; 5: 2578-?
- **Dimethylated H3K27 Is a Repressive Epigenetic Histone Mark in the Protist Entamoeba histolytica and Is Significantly Enriched in Genes Silenced via the RNAi Pathway** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Foda, B. M., Singh, U.
2015; 290 (34): 21114-21130
- **Dimethylated H3K27 Is a Repressive Epigenetic Histone Mark in the Protist Entamoeba histolytica and Is Significantly Enriched in Genes Silenced via the RNAi Pathway.** *The Journal of biological chemistry*
Foda, B. M., Singh, U.
2015; 290 (34): 21114-30
- **High Throughput Sequencing of Entamoeba 27nt Small RNA Population Reveals Role in Permanent Gene Silencing But No Effect on Regulating Gene Expression Changes during Stage Conversion, Oxidative, or Heat Shock Stress** *PLOS ONE*
Zhang, H., Ehrenkauf, G. M., Manna, D., Hall, N., Singh, U.
2015; 10 (8)
- **A Single RNaseIII Domain Protein from Entamoeba histolytica Has dsRNA Cleavage Activity and Can Help Mediate RNAi Gene Silencing in a Heterologous System** *PLOS ONE*
Pompey, J. M., Foda, B., Singh, U.
2015; 10 (7)
- **Entamoeba histolytica rhomboid protease 1 has a role in migration and motility as validated by two independent genetic approaches** *EXPERIMENTAL PARASITOLOGY*
Rastew, E., Morf, L., Singh, U.
2015; 154: 33-42
- **High Throughput Sequencing of Entamoeba 27nt Small RNA Population Reveals Role in Permanent Gene Silencing But No Effect on Regulating Gene Expression Changes during Stage Conversion, Oxidative, or Heat Shock Stress.** *PloS one*
Zhang, H., Ehrenkauf, G. M., Manna, D., Hall, N., Singh, U.
2015; 10 (8)
- **Regulation of gene expression in the protozoan parasite Entamoeba invadens: identification of core promoter elements and promoters with stage-specific expression patterns** *INTERNATIONAL JOURNAL FOR PARASITOLOGY*
Manna, D., Ehrenkauf, G. M., Singh, U.
2014; 44 (11): 837-845
- **Regulation of gene expression in the protozoan parasite Entamoeba invadens: identification of core promoter elements and promoters with stage-specific expression patterns.** *International journal for parasitology*
Manna, D., Ehrenkauf, G. M., Singh, U.
2014; 44 (11): 837-845
- **RNAi Pathway Genes Are Resistant to Small RNA Mediated Gene Silencing in the Protozoan Parasite Entamoeba histolytica** *PLOS ONE*
Pompey, J. M., Morf, L., Singh, U.
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- **Destabilization domain approach adapted for regulated protein expression in the protozoan parasite *Entamoeba histolytica*.** *International journal for parasitology*
Liu, Y., Singh, U.
2014; 44 (10): 729-735
- **RNAi pathway genes are resistant to small RNA mediated gene silencing in the protozoan parasite *Entamoeba histolytica*.** *PloS one*
Pompey, J. M., Morf, L., Singh, U.
2014; 9 (9)
- **Robust gene silencing mediated by antisense small RNAs in the pathogenic protist *Entamoeba histolytica*.** *Nucleic acids research*
Morf, L., Pearson, R. J., Wang, A. S., Singh, U.
2013; 41 (20): 9424-9437
- **The genome and transcriptome of the enteric parasite *Entamoeba invadens*, a model for encystation.** *Genome biology*
Ehrenkaufer, G. M., Weedall, G. D., Williams, D., Lorenzi, H. A., Caler, E., Hall, N., Singh, U.
2013; 14 (7): R77
- **Regulation of H2O2 Stress-responsive Genes through a Novel Transcription Factor in the Protozoan Pathogen *Entamoeba histolytica*** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Pearson, R. J., Morf, L., Singh, U.
2013; 288 (6): 4462-4474
- **Small RNA pyrosequencing in the protozoan parasite *Entamoeba histolytica* reveals strain-specific small RNAs that target virulence genes** *BMC GENOMICS*
Zhang, H., Ehrenkaufer, G. M., Hall, N., Singh, U.
2013; 14
- **Distinct Distal Gut Microbiome Diversity and Composition in Healthy Children from Bangladesh and the United States** *PLOS ONE*
Lin, A., Bik, E. M., Costello, E. K., Dethlefsen, L., Haque, R., Relman, D. A., Singh, U.
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- **Distinct distal gut microbiome diversity and composition in healthy children from Bangladesh and the United States.** *PloS one*
Lin, A., Bik, E. M., Costello, E. K., Dethlefsen, L., Haque, R., Relman, D. A., Singh, U.
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- **The genome and transcriptome of the enteric parasite *Entamoeba invadens*, a model for encystation** *GENOME BIOLOGY*
Ehrenkaufer, G. M., Weedall, G. D., Williams, D., Lorenzi, H. A., Caler, E., Hall, N., Singh, U.
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- **Oxidative stress resistance genes contribute to the pathogenic potential of the anaerobic protozoan parasite, *Entamoeba histolytica*** *INTERNATIONAL JOURNAL FOR PARASITOLOGY*
Rastew, E., Vicente, J. B., Singh, U.
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- **A Detoxifying Oxygen Reductase in the Anaerobic Protozoan *Entamoeba histolytica*** *EUKARYOTIC CELL*
Vicente, J. B., Vy Tran, V., Pinto, L., Teixeira, M., Singh, U.
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- ***Entamoeba histolytica*: a snapshot of current research and methods for genetic analysis** *CURRENT OPINION IN MICROBIOLOGY*
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- **Transient and stable transfection in the protozoan parasite *Entamoeba invadens*** *MOLECULAR AND BIOCHEMICAL PARASITOLOGY*
Ehrenkaufer, G. M., Singh, U.
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- **Antiparasitic Therapy** *MAYO CLINIC PROCEEDINGS*
Kappagoda, S., Singh, U., Blackburn, B. G.
2011; 86 (6): 561-583
- **RNA interference in Entamoeba histolytica: implications for parasite biology and gene silencing** *FUTURE MICROBIOLOGY*
Zhang, H., Pompey, J. M., Singh, U.
2011; 6 (1): 103-117
- **Approaches to characterizing Entamoeba histolytica transcriptional regulation** *CELLULAR MICROBIOLOGY*
Pearson, R. J., Singh, U.
2010; 12 (12): 1681-1690
- **Downregulation of an Entamoeba histolytica Rhomboid Protease Reveals Roles in Regulating Parasite Adhesion and Phagocytosis** *EUKARYOTIC CELL*
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- **A developmentally regulated Myb domain protein regulates expression of a subset of stage-specific genes in Entamoeba histolytica** *CELLULAR MICROBIOLOGY*
Ehrenkaufer, G. M., Hackney, J. A., Singh, U.
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- **A Pseudouridine Synthase Homologue Is Critical to Cellular Differentiation in Toxoplasma gondii** *EUKARYOTIC CELL*
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2009; 8 (3): 398-409
- **Short hairpin RNA-mediated knockdown of protein expression in Entamoeba histolytica** *BMC MICROBIOLOGY*
Linford, A. S., Moreno, H., Good, K. R., Zhang, H., Singh, U., Petri, W. A.
2009; 9
- **Recent insights into Entamoeba development: Identification of transcriptional networks associated with stage conversion** *INTERNATIONAL JOURNAL FOR PARASITOLOGY*
Singh, U., Ehrenkaufer, G. M.
2009; 39 (1): 41-47
- **Entamoeba histolytica modulates a complex repertoire of novel genes in response to oxidative and nitrosative stresses: implications for amebic pathogenesis** *CELLULAR MICROBIOLOGY*
Vicente, J. B., Ehrenkaufer, G. M., Saraiva, L. M., Teixeira, M., Singh, U.
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- **Small RNAs with 5'-Polyphosphate Termini Associate with a Piwi-Related Protein and Regulate Gene Expression in the Single-Celled Eukaryote Entamoeba histolytica** *PLOS PATHOGENS*
Zhang, H., Ehrenkaufer, G. M., Pompey, J. M., Hackney, J. A., Singh, U.
2008; 4 (11)
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Ehrenkaufer, G. M., Singh, U.
2008; 9 (11): 931-937
- **New insights into Entamoeba histolytica pathogenesis** *CURRENT OPINION IN INFECTIOUS DISEASES*
Baxt, L. A., Singh, U.
2008; 21 (5): 489-494
- **An Entamoeba histolytica rhomboid protease with atypical specificity cleaves a surface lectin involved in phagocytosis and immune evasion** *GENES & DEVELOPMENT*
Baxt, L. A., Baker, R. P., Singh, U., Urban, S.
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MacFarlane, R. C., Singh, U.
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MacFarlane, R. C., Singh, U.
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- **Trichostatin A effects on gene expression in the protozoan parasite *Entamoeba histolytica*** *BMC GENOMICS*
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