



Michael Kozal

Professor of Medicine (Infectious Diseases)

Medicine - Infectious Diseases

CLINICAL OFFICE (PRIMARY)

- **Infectious Disease Clinic**

300 Pasteur Dr Rm L134

Lane Bldg MC 5107

Stanford, CA 94305

Tel (650) 723-9062 **Fax** (650) 498-9876

Bio

BIO

Dr. Kozal is a Professor of Medicine in the Division of Infectious Diseases and Geographic Medicine and is the Director of Operations for the Department of Medicine Clinical Research Hub. He previously served as Senior Associate Dean for Veteran Affairs at Stanford School of Medicine and Chief of Staff at VA Palo Alto Health Care System. Prior to coming to Stanford, he was a Professor of Medicine at Yale University School of Medicine and served as Associate Dean for Veteran Affairs at Yale University School of Medicine and the Chief of Staff at VA Connecticut Healthcare System.

Dr. Kozal is a translational researcher who has focused his research career on three areas: 1) investigating the genetic determinants of HIV and HCV drug resistance, 2) the development of new molecular methods to detect viral mutations, and 3) HIV and HCV clinical trials involving new drugs and diagnostic technology. Dr. Kozal is an expert in microarray and deep sequencing technology receiving patents for his work in genotyping. Dr. Kozal previously directed the Yale HIV Clinical Trials Group and has more than 20 years of experience in running clinical trials, serving as the principal investigator or site investigator on >40 HIV and Hepatitis C trials. He has served on multiple VA and NIH/NCI review panels and was a member of the DHHS/NIH Panel on Antiretroviral Guidelines for Adults and Adolescents from 2015-2024.

Dr. Kozal is currently serving as the overall Director of Operations for the Department of Medicine Clinical Research Hub. The key hub functions include research navigation, enhanced pre-award support for budgeting and submission strategy, streamlined contracting with research sponsors, a multisite clinical coordination center to coordinate and monitor complex studies, and a centralized digital platform for study design, data access, and analytics.

Dr. Kozal sees patients in the Infectious Diseases Clinic and the Valley Fever Clinic in Palo Alto.

CLINICAL FOCUS

- Infectious Disease

ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Medicine - Infectious Diseases

ADMINISTRATIVE APPOINTMENTS

- Director of Operations, DOM Clinical Research Hub, Stanford Department of Medicine (DOM), (2025- present)
- Senior Associate Dean for Veteran Affairs, Stanford School of Medicine, (2021-2024)
- Chief of Staff, VA Palo Alto Healthcare System, (2021-2024)
- Associate Dean for Veteran Affairs, Yale University School of Medicine, (2020-2021)
- Chief of Staff, VA Connecticut Healthcare System, (2019-2021)
- Professor of Medicine, Yale University School of Medicine, (2010-2021)
- Medicine Service line Director, VISN 1, (2017-2019)
- Vice Chair for Veteran Affairs, Dept. of Medicine, Yale University School of Medicine, (2013-2020)
- Chief of Medicine, VA Connecticut Healthcare System, (2013-2020)
- Director, Yale HIV Clinical Trials Program, Yale University School of Medicine, (2009-2017)
- Associate Professor, Yale University School of Medicine, (2005-2010)
- Chief, Section of Infectious Diseases, VA Connecticut Healthcare System, (2006-2013)
- Assistant Professor, Yale University School of Medicine, (2000-2005)

HONORS AND AWARDS

- VISN 1 Network Director's ICARE Award (Integrity, Commitment, Advocacy, Respect & Excellence), VHA (2019)
- Honorary Master of Arts (MAH), Yale University (2011)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, DHHS/NIH Panel on Antiretroviral Guidelines for Adults and Adolescents (2015 - 2024)
- Reviewer, NIH/NIAID SBIR -Topic areas 33, 34 and 35 Phase I (2016 - 2016)
- Member, NCI intramural site visit review team of the AIDS and Cancer Virus Program (2015 - 2015)
- Chair, Special Emphasis Panel, NIAID Review Panel: RFA AI-12-018 Clinical Trial Units for NIAID Networks (UM1) (2013 - 2013)
- Member, NCI intramural site visit review team of the AIDS and Cancer Virus Program (2011 - 2011)
- Member, VA Career Development Award Study Section (2008 - 2008)
- Member, Review Panel, NIH Adult AIDS Clinical Trials Support Laboratories (2003 - 2003)

PROFESSIONAL EDUCATION

- Board Certification: Internal Medicine, American Board of Internal Medicine (2023)
- Board Certification: Infectious Disease, American Board of Internal Medicine (1994)
- Fellowship: Stanford University Infectious Disease Fellowships (1994) CA
- Residency: University of Nebraska Medical Center Internal Medicine Residency (1991) NE
- Medical Education: University of Nebraska College of Medicine (1988) NE
- Fellowship, Stanford University , Infectious Diseases (1994)
- Residency, University of Nebraska Medical Center , Internal Medicine (1991)
- MD, University of Nebraska College of Medicine , Medicine (1988)

PATENTS

- Michael J Kozal. "United States Patent US20100173795A1 HIV and HCV microarray to detect drug resistance", Yale University and the United States Government VHA, Mar 18, 2010

- Michael J. Kozal, Thomas C Merigan. "United States Patent US RE38,352E1 Polymerase chain reaction assays for monitoring antiretroviral therapy and making therapeutic decisions in the treatment of acquired immunodeficiency syndrome.", Stanford University, Dec 16, 2003
- Michael J. Kozal, Thomas C. Merigan. "United States Patent 5,856,086 Polymerase chain reaction assays for monitoring antiretroviral therapy and making therapeutic decisions in the treatment of acquired immunodeficiency syndrome.", Stanford University, Jan 5, 1999
- Michael J. Kozal, Thomas C. Merigan. "United States Patent 5,650,268 Polymerase chain reaction assays for monitoring antiretroviral therapy and making therapeutic decisions in the treatment of acquired immunodeficiency syndrome.", Stanford University, Jul 22, 1997
- Michael Kozal, Thomas Merigan. "United States Patent 5,631,128 Polymerase chain reaction assays for monitoring antiretroviral therapy and making therapeutic decisions in the treatment of acquired immunodeficiency syndrome.", Stanford University, May 20, 1997

Publications

PUBLICATIONS

- **Do we need routine integrase resistance testing before starting antiretroviral therapy?** *The lancet. HIV*
Kantor, R., Pau, A. K., Kozal, M. J., Hyle, E. P.
2025
- **DHHS Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents Living with HIV.**
Panel Member - Kozal, M.
Department of Health and Human Services.
2024 ; Panel on Antiretroviral Guidelines for Adults and Adolescents.
- **Academic Medical Centers and the U.S. Department of Veterans Affairs: A 75-Year Partnership Influences Medical Education, Scientific Discovery, and Clinical Care.** *Academic medicine : journal of the Association of American Medical Colleges*
Petrakis, I. L., Kozal, M.
2022
- **Fostemsavir in Adults with Multidrug-Resistant HIV-1 Infection.** *The New England journal of medicine*
Kozal, M., Aberg, J., Pialoux, G., Cahn, P., Thompson, M., Molina, J. M., Grinsztejn, B., Diaz, R., Castagna, A., Kumar, P., Latiff, G., DeJesus, E., Gummel, et al
2020; 382 (13): 1232-1243
- **Safety and efficacy of the HIV-1 attachment inhibitor prodrug fostemsavir in heavily treatment-experienced individuals: week 96 results of the phase 3 BRIGHT study.** *The lancet. HIV*
Lataillade, M., Lalezari, J. P., Kozal, M., Aberg, J. A., Pialoux, G., Cahn, P., Thompson, M., Molina, J. M., Moreno, S., Grinsztejn, B., Diaz, R. S., Castagna, A., Kumar, et al
2020; 7 (11): e740-e751
- **Deep sequencing of HIV: clinical and research applications.** *Annual review of genomics and human genetics*
Chabria, S. B., Gupta, S., Kozal, M. J.
2014; 15: 295-325
- **Low-frequency HIV-1 drug resistance mutations and risk of NNRTI-based antiretroviral treatment failure: a systematic review and pooled analysis.** *JAMA*
Li, J. Z., Paredes, R., Ribaldo, H. J., Svarovskaia, E. S., Metzner, K. J., Kozal, M. J., Hullsiek, K. H., Balduin, M., Jakobsen, M. R., Geretti, A. M., Thiebaut, R., Ostergaard, L., Masquelier, et al
2011; 305 (13): 1327-35
- **Low-abundance drug-resistant viral variants in chronically HIV-infected, antiretroviral treatment-naive patients significantly impact treatment outcomes.** *The Journal of infectious diseases*
Simen, B. B., Simons, J. F., Hullsiek, K. H., Novak, R. M., Macarthur, R. D., Baxter, J. D., Huang, C., Lubeski, C., Turenchalk, G. S., Braverman, M. S., Desany, B., Rothberg, J. M., Egholm, et al
2009; 199 (5): 693-701
- **A comparison of three highly active antiretroviral treatment strategies consisting of non-nucleoside reverse transcriptase inhibitors, protease inhibitors, or both in the presence of nucleoside reverse transcriptase inhibitors as initial therapy (CPCRA 058 FIRST Study): a long-term randomised trial.** *Lancet (London, England)*
MacArthur, R. D., Novak, R. M., Peng, G., Chen, L., Xiang, Y., Hullsiek, K. H., Kozal, M. J., van den Berg-Wolf, M., Henely, C., Schmetter, B., Dehlinger, M.
2006; 368 (9553): 2125-35

- **Extensive polymorphisms observed in HIV-1 clade B protease gene using high-density oligonucleotide arrays** *NATURE MEDICINE*
Kozal, M. J., Shah, N., Shen, N. P., Yang, R., FUCINI, R., Merigan, T. C., Richman, D. D., Morris, D., Hubbell, E. R., Chee, M., Gingeras, T. R.
1996; 2 (7): 753-759
- **Rate of response to initial antiretroviral therapy according to level of pre-existing HIV-1 drug resistance detected by next-generation sequencing in the strategic timing of antiretroviral treatment (START) study.** *HIV medicine*
Cozzi-Lepri, A., Dunn, D., Tostevin, A., Marvig, R. L., Bennedbaek, M., Sharma, S., Kozal, M. J., Gompels, M., Pinto, A. N., Lundgren, J., Baxter, J. D.
2023
- **DIVERSE IDENTITIES AND VARIED EXPERIENCES IN SETTINGS OF HEALTHCARE EDUCATION (DIVERSE)**
Madhavan, R., Frank, C., DeRycke, E., Kozal, M. J., Gupta, S.
SPRINGER.2022: 208-209
- **Week 96 Genotypic and Phenotypic Results of the Fostemsavir Phase 3 BRIGHT E Study in Heavily Treatment-Experienced Adults Living with Multidrug-Resistant HIV-1.** *Antimicrobial agents and chemotherapy*
Gartland, M., Cahn, P., DeJesus, E., Diaz, R. S., Grossberg, R., Kozal, M., Kumar, P., Molina, J., Mendo Urbina, F., Wang, M., Du, F., Chabria, S., Clark, et al
2022: e0175121
- **Fostemsavir: a first-in-class HIV-1 attachment inhibitor.** *Current opinion in HIV and AIDS*
Grant, P. M., Kozal, M. J.
2022; 17 (1): 32-35
- **Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents Living with HIV.**
Panel Member - Kozal, M.
Department of Health and Human Services.
2022 ; Panel on Antiretroviral Guidelines for Adults and Adolescents.
- **Evaluation of HIV-1 reservoir size and broadly neutralizing antibodies (bNAb) susceptibility in acute ART treated individuals.** *AIDS (London, England)*
Moldt, B., Gunthard, H. F., Workowski, K. A., Little, S. J., Eron, J. J., Overton, E. T., Lehmann, C., Rokx, C., Kozal, M. J., Gandhi, R. T., Braun, D. L., Parvanga, A., Li, et al
2021
- **CLOSURE OF SURGICAL AND INTERVENTIONAL SERVICES IN A TEACHING HOSPITAL: IMPACT ON INTERNAL MEDICINE TRAINEES AND THE MEDICINE/SUBSPECIALTY SERVICE WORKLOAD**
Gupta, S., Frank, C., Biondi, B., Sallah, Y., Kozal, M. J.
SPRINGER.2021: S434
- **Transmitted HIV-1 drug resistance in a large international cohort using next-generation sequencing: results from the Strategic Timing of Antiretroviral Treatment (START) study.** *HIV medicine*
Baxter, J. D., Dunn, D., Tostevin, A., Marvig, R. L., Bennedbaek, M., Cozzi-Lepri, A., Sharma, S., Kozal, M. J., Gompels, M., Pinto, A. N., Lundgren, J.
2021; 22 (5): 360-371
- **Fostemsavir for the treatment of HIV.** *Expert review of anti-infective therapy*
Seval, N., Frank, C., Kozal, M.
2021; 19 (8): 961-966
- **Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents with HIV. Department of Health and Human Services.**
Panel-Member, Kozal, M.
U.S. Department of Health and Human Services .
2021
- **Long-term efficacy and safety of fostemsavir among subgroups of heavily treatment-experienced adults with HIV-1.** *AIDS (London, England)*
Ackerman, P., Thompson, M., Molina, J. M., Aberg, J., Cassetti, I., Kozal, M., Castagna, A., Martins, M., Ramgopal, M., Sprinz, E., Treviño-Pérez, S., Streinu-Cercel, A., Latiff, et al
2021; 35 (7): 1061-1072

- **SARS-CoV-2 detection in setting of viral swabs scarcity: Are MRSA swabs and viral swabs equivalent?** *PloS one*
Federman, D. G., Gupta, S., Stack, G., Campbell, S. M., Peaper, D. R., Dembry, L. M., Fisher, A., Tarabar, A. F., Kozal, M., Ruser, C. B.
2020; 15 (8): e0237127
- **Ombitasvir/paritaprevir/ritonavir and dasabuvir±ribavirin for chronic HCV infection in US veterans with psychiatric disorders.** *Journal of medical virology*
Fuchs, M., Monto, A., Bräu, N., Charafeddine, M., Schmidt, W., Kozal, M., Naggie, S., Cheung, R., Schnell, G., Yu, Y., Richards, K., Mullally, V., Cohen, et al
2019
- **Interpretation of HIV drug resistance testing** *Uptodate*
Kozal, M.
Uptodate, Waltham, MA.2019
- **Overview of HIV drug resistance testing assays** *UptoDate*
Kozal, M.
UptoDate, Waltham, MA.2019
- **Guidance for Non-HIV-Specialized Providers Caring for Persons with HIV Who Have Been Displaced by Disasters (such as a Hurricane)**
Panel-Member, Kozal, M.
US Department of Health and Human Services.
2018
- **Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents Living with HIV.**
Panel-Member, Kozal, M.
Department of Health and Human Services.
2018
- **An Open-Label, Multicenter Study of Ombitasvir/Paritaprevir/Ritonavir and Dasabuvir with or without Ribavirin in US Veterans with Genotype 1 Chronic Hepatitis C Infection: Efficacy and Safety Results of TOPAZ-VA**
Fuchs, M., Morgan, T. R., Charafeddine, M., Brau, N., Schmidt, W. N., Kozal, M., Naggie, S., Cheung, R., Pilot-Matias, T., Yu, Y., Richards, K., Mullally, V., Cohen, et al
WILEY.2016: 488A
- **HIV Drug Resistance Mutations (DRMs) Detected by Deep Sequencing in Virologic Failure Subjects on Therapy from Hunan Province, China** *PLOS ONE*
Chen, X., Zou, X., He, J., Zheng, J., Chiarella, J., Kozal, M. J.
2016; 11 (2)
- **Characterizing Patients with Very-Low-Level HIV Viremia: A Community-Based Study.** *Journal of the International Association of Providers of AIDS Care*
Helou, E., Sheno, S., Kyriakides, T., Landry, M. L., Kozal, M., Barakat, L. A.
2016; 16 (3): 261-266
- **Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents Living with HIV.**
Panel-Member, Kozal, M.
US Department of Health and Human Services.
2016
- **Global HIV-1 transmitted drug resistance in the INSIGHT Strategic Timing of AntiRetroviral Treatment (START) trial.** *HIV medicine*
Baxter, J. D., Dunn, D., White, E., Sharma, S., Geretti, A. M., Kozal, M. J., Johnson, M. A., Jacoby, S., Llibre, J. M., Lundgren, J.
2015; 16 Suppl 1: 77-87
- **Transmission of HIV drug resistance: lessons from sensitive screening assays.** *Current opinion in infectious diseases*
Geretti, A. M., Paredes, R., Kozal, M. J.
2015; 28 (1): 23-30
- **Increased Levels of Macrophage Inflammatory Proteins Result in Resistance to R5-Tropic HIV-1 in a Subset of Elite Controllers.** *Journal of virology*

- Walker, W. E., Kurscheid, S., Joshi, S., Lopez, C. A., Goh, G., Choi, M., Barakat, L., Francis, J., Fisher, A., Kozal, M., Zapata, H., Shaw, A., Lifton, et al
2015; 89 (10): 5502-14
- **Low-frequency NNRTI-resistant HIV-1 variants and relationship to mutational load in antiretroviral-naïve subjects.** *Viruses*
Gupta, S., Lataillade, M., Kyriakides, T. C., Chiarella, J., St John, E. P., Webb, S., Moreno, E. A., Simen, B. B., Kozal, M. J.
2014; 6 (9): 3428-37
 - **Low-Frequency NNRTI-Resistant HIV-1 Variants and Relationship to Mutational Load in Antiretroviral-Naïve Subjects** *VIRUSES-BASEL*
Gupta, S., Lataillade, M., Kyriakides, T. C., Chiarella, J., St John, E. P., Webb, S., Moreno, E. A., Simen, B. B., Kozal, M. J.
2014; 6 (9): 3428-3437
 - **Prevalence of WHO Transmitted Drug Resistance Mutations by Deep Sequencing in Antiretroviral-Naïve Subjects in Hunan Province, China** *PLOS ONE*
Zou Xiaobai, X. B., Xi, C., Tian, H., Williams, A. B., Wang, H., He, J., Zhen, J., Chiarella, J., Blake, L. A., Trenchalk, G., Kozal, M. J.
2014; 9 (6)
 - **The VACS Index Accurately Predicts Mortality and Treatment Response among Multi-Drug Resistant HIV Infected Patients Participating in the Options in Management with Antiretrovirals (OPTIMA) Study** *PLOS ONE*
Brown, S. T., Tate, J. P., Kyriakides, T. C., Kirkwood, K. A., Holodniy, M., Goulet, J. L., Angus, B. J., Cameron, D. W., Justice, A. C.
2014; 9 (3)
 - **A Study of Financial Incentives to Reduce Plasma HIV RNA Among Patients in Care** *AIDS AND BEHAVIOR*
Farber, S., Tate, J., Frank, C., Ardito, D., Kozal, M., Justice, A. C., Braithwaite, R.
2013; 17 (7): 2293-2300
 - **Impact of minority nonnucleoside reverse transcriptase inhibitor resistance mutations on resistance genotype after virologic failure.** *The Journal of infectious diseases*
Li, J. Z., Paredes, R., Ribaudo, H. J., Kozal, M. J., Svarovskaia, E. S., Johnson, J. A., Geretti, A. M., Metzner, K. J., Jakobsen, M. R., Hullsiek, K. H., Ostergaard, L., Miller, M. D., Kuritzkes, et al
2013; 207 (6): 893-7
 - **Overview of HIV drug resistance testing** *Uptodate*
Kozal, M.
Uptodate, Waltham, MA.2013; Version 13.0
 - **Drug resistance testing in the management of HIV disease** *Uptodate*
Kozal, M.
Uptodate, Waltham, MA.2013; Version 13.0
 - **Association between risk behaviors and antiretroviral resistance in HIV-infected patients receiving opioid agonist treatment.** *Journal of addiction medicine*
Tetrault, J. M., Kozal, M. J., Chiarella, J., Sullivan, L. E., Dinh, A. T., Fiellin, D. A.
2013; 7 (2): 102-7
 - **Development of Elvitegravir Resistance and Linkage of Integrase Inhibitor Mutations with Protease and Reverse Transcriptase Resistance Mutations** *PLOS ONE*
Winters, M. A., Lloyd, R. M., Shafer, R. W., Kozal, M. J., Miller, M. D., Holodniy, M.
2012; 7 (7)
 - **Virologic Failures on Initial Boosted-PI Regimen Infrequently Possess Low-Level Variants with Major PI Resistance Mutations by Ultra-Deep Sequencing** *PLOS ONE*
Lataillade, M., Chiarella, J., Yang, R., Degrosky, M., Uy, J., Seekins, D., Simen, B., St John, E., Moreno, E., Kozal, M.
2012; 7 (2)
 - **Relationship between minority nonnucleoside reverse transcriptase inhibitor resistance mutations, adherence, and the risk of virologic failure.** *AIDS (London, England)*
Li, J. Z., Paredes, R., Ribaudo, H. J., Svarovskaia, E. S., Kozal, M. J., Hullsiek, K. H., Miller, M. D., Bangsberg, D. R., Kuritzkes, D. R.
2012; 26 (2): 185-92
 - **A nucleoside- and ritonavir-sparing regimen containing atazanavir plus raltegravir in antiretroviral treatment-naïve HIV-infected patients: SPARTAN study results.** *HIV clinical trials*

- Kozal, M. J., Lupo, S., DeJesus, E., Molina, J. M., McDonald, C., Raffi, F., Benetucci, J., Mancini, M., Yang, R., Wirtz, V., Percival, L., Zhang, J., Zhu, et al
2012; 13 (3): 119-30
- **Epidemiology, Seasonality, and Predictors of Outcome of AIDS-Associated *Penicillium marneffe* Infection in Ho Chi Minh City, Viet Nam** *CLINICAL INFECTIOUS DISEASES*
Thuy Le, L., Wolbers, M., Nguyen Huu Chi, H. C., Vo Minh Quang, M. Q., Nguyen Tran Chinh, T. C., Nguyen Phu Huong Lan, P. H., Pham Si Lam, S. L., Kozal, M. J., Shikuma, C. M., Day, J. N., Farrar, J.
2011; 52 (7): 945-952
 - **Results of Antiretroviral Treatment Interruption and Intensification in Advanced Multi-Drug Resistant HIV Infection from the OPTIMA Trial** *PLOS ONE*
Holodniy, M., Brown, S. T., Cameron, D. W., Kyriakides, T. C., Angus, B., Babiker, A., Singer, J., Owens, D. K., Anis, A., Goodall, R., Hudson, F., Piaseczny, M., Russo, et al
2011; 6 (3)
 - **New technology to detect low-level drug-resistant HIV variants** *FUTURE VIROLOGY*
Gega, A., Kozal, M. J.
2011; 6 (1): 17-26
 - **Drug resistance testing in the management of HIV disease** *Uptodate*
Kozal, M.
Uptodate, Waltham, MA.2011; version 19.2
 - **Prevalence of low-level HIV-1 variants with reverse transcriptase mutation K65R and the effect of antiretroviral drug exposure on variant levels.** *Antiviral therapy*
Kozal, M. J., Chiarella, J., St John, E. P., Moreno, E. A., Simen, B. B., Arnold, T. E., Lataillade, M.
2011; 16 (6): 925-9
 - **HIV TRANSMISSION RISK BEHAVIORS AND GENOTYPIC DRUG RESISTANCE AMONG HIV plus PATIENTS ON OPIOID AGONIST TREATMENT**
Tetrault, J., Sullivan, L., Dinh, A., Fiellin, D., Kozal, M.
SPRINGER.2010: 296
 - **Use of new technologies to detect and understand HIV drug resistance**
Kozal, M. J.
BIOMED CENTRAL LTD.2010: 6
 - **Prevalence and clinical significance of HIV drug resistance mutations by ultra-deep sequencing in antiretroviral-naïve subjects in the CASTLE study.** *PloS one*
Lataillade, M., Chiarella, J., Yang, R., Schnittman, S., Wirtz, V., Uy, J., Seekins, D., Krystal, M., Mancini, M., McGrath, D., Simen, B., Egholm, M., Kozal, et al
2010; 5 (6): e10952
 - **Overview of HIV drug resistance testing** *Uptodate*
Kozal, M.
2010; version 18.1
 - **Low-Abundance HIV Drug-Resistant Viral Variants in Treatment-Experienced Persons Correlate with Historical Antiretroviral Use** *PLOS ONE*
Le, T., Chiarella, J., Simen, B. B., Hanczaruk, B., Egholm, M., Landry, M. L., Dieckhaus, K., Rosen, M. I., Kozal, M. J.
2009; 4 (6)
 - **Drug-resistant human immunodeficiency virus.** *Clinical microbiology and infection : the official publication of the European Society of Clinical Microbiology and Infectious Diseases*
Kozal, M. J.
2009; 15 Suppl 1: 69-73
 - **Raltegravir with unboosted atazanavir 300 mg twice daily in antiretroviral treatment-experienced participants.** *Journal of the International Association of Physicians in AIDS Care (Chicago, Ill. : 2002)*
Gupta, S., Lataillade, M., Farber, S., Kozal, M. J.

2009; 8 (2): 87-92

- **Development of an electronic medical record-based clinical decision support tool to improve HIV symptom management.** *AIDS patient care and STDs*
Nader, C. M., Tsevat, J., Justice, A. C., Mrus, J. M., Levin, F., Kozal, M. J., Mattocks, K., Farber, S., Rogers, M., Erdos, J., Brandt, C., Kudel, I., Braithwaite, et al
2009; 23 (7): 521-9
- **Hepatitis C protease and polymerase inhibitors in development.** *AIDS patient care and STDs*
Liu-Young, G., Kozal, M. J.
2008; 22 (6): 449-57
- **Virologic, immunologic, clinical, safety, and resistance outcomes from a long-term comparison of efavirenz-based versus nevirapine-based antiretroviral regimens as initial therapy in HIV-1-infected persons.** *HIV clinical trials*
van den Berg-Wolf, M., Hullsiek, K. H., Peng, G., Kozal, M. J., Novak, R. M., Chen, L., Crane, L. R., MacArthur, R. D.
2008; 9 (5): 324-36
- **Attitudes toward needle-sharing and HIV transmission risk behavior among HIV+ injection drug users in clinical care.** *AIDS care*
Norton, W. E., Amico, K. R., Fisher, W. A., Copenhaver, M. M., Kozal, M. J., Cornman, D. H., Friedland, G., Fisher, J. D.
2008; 20 (4): 462-9
- **Evolution of genotypic resistance algorithms and their impact on the interpretation of clinical trials: An OPTIMA trial substudy** *HIV CLINICAL TRIALS*
Desai, S., Kyriakides, T., Holodniy, M., Al-Salman, J., Griffith, B., Kozal, M.
2007; 8 (5): 293-302
- **Adherence, virological and immunological outcomes for HIV-infected veterans starting combination antiretroviral therapies.** *AIDS (London, England)*
Braithwaite, R. S., Kozal, M. J., Chang, C. C., Roberts, M. S., Fultz, S. L., Goetz, M. B., Gibert, C., Rodriguez-Barradas, M., Mole, L., Justice, A. C.
2007; 21 (12): 1579-89
- **Directly administered antiretroviral therapy for HIV-infected drug users does not have an impact on antiretroviral resistance: results from a randomized controlled trial.** *Journal of acquired immune deficiency syndromes (1999)*
Maru, D. S., Kozal, M. J., Bruce, R. D., Springer, S. A., Altice, F. L.
2007; 46 (5): 555-63
- **Natural polymorphism of the HIV-1 integrase gene and mutations associated with integrase inhibitor resistance.** *Antiviral therapy*
Lataillade, M., Chiarella, J., Kozal, M. J.
2007; 12 (4): 563-70
- **The Incidence of HIV drug resistance and its impact on progression of HIV disease among antiretroviral-naïve participants started on three different antiretroviral therapy strategies.** *HIV clinical trials*
Kozal, M. J., Hullsiek, K. H., MacArthur, R. D., Berg-Wolf, M. v., Peng, G., Xiang, Y., Baxter, J. D., Uy, J., Telzak, E. E., Novak, R. M.
2007; 8 (6): 357-70
- **The hunt for HIV-1 integrase inhibitors.** *AIDS patient care and STDs*
Lataillade, M., Kozal, M. J.
2006; 20 (7): 489-501
- **Prevalence and impact of HIV-1 protease codon 33 mutations and polymorphisms in treatment-naïve and treatment-experienced patients.** *Antiviral therapy*
Kozal, M. J., Hullsiek, K. H., Leduc, R., Novak, R. M., MacArthur, R. D., Lawrence, J., Baxter, J. D.
2006; 11 (4): 457-63
- **A population-based and longitudinal study of sexual behavior and multidrug-resistant HIV among patients in clinical care.** *MedGenMed : Medscape general medicine*
Kozal, M. J., Amico, K. R., Chiarella, J., Cornman, D., Fisher, W., Fisher, J., Friedland, G.
2006; 8 (2): 72
- **Efficacy and safety of abacavir plus lamivudine versus didanosine plus stavudine when combined with a protease inhibitor, a nonnucleoside reverse transcriptase inhibitor, or both in HIV-1 positive antiretroviral-naïve persons.** *HIV clinical trials*
MacArthur, R. D., Chen, L., Peng, G., Novak, R. M., van den Berg-Wolf, M., Kozal, M., Besch, L., Yurik, T., Schmetter, B., Henley, C., Dehlinger, M.

2005; 5 (6): 361-70

- **Prevalence of antiretroviral drug resistance mutations in chronically HIV-infected, treatment-naive patients: implications for routine resistance screening before initiation of antiretroviral therapy.** *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*
Novak, R. M., Chen, L., MacArthur, R. D., Baxter, J. D., Huppler Hullsiek, K., Peng, G., Xiang, Y., Henely, C., Schmetter, B., Uy, J., van den Berg-Wolf, M., Kozal, M.
2005; 40 (3): 468-74
- **HIV drug resistance and HIV transmission risk behaviors among active injection drug users.** *Journal of acquired immune deficiency syndromes (1999)*
Kozal, M. J., Amico, K. R., Chiarella, J., Cornman, D., Fisher, W., Fisher, J., Friedland, G.
2005; 40 (1): 106-9
- **Cross-resistance patterns among HIV protease inhibitors.** *AIDS patient care and STDs*
Kozal, M.
2004; 18 (4): 199-208
- **Antiretroviral resistance and high-risk transmission behavior among HIV-positive patients in clinical care.** *AIDS (London, England)*
Kozal, M. J., Amico, K. R., Chiarella, J., Schreiber, T., Cornman, D., Fisher, W., Fisher, J., Friedland, G.
2004; 18 (16): 2185-9
- **The effect of high-dose saquinavir on viral load and CD4(+) T-cell counts in HIV-infected patients** *ANNALS OF INTERNAL MEDICINE*
Schapiro, J. M., Winters, M. A., Stewart, F., Efron, B., Norris, J., Kozal, M. J., Merigan, T. C.
1996; 124 (12): 1039-1050
- **Using oligonucleotide probe arrays to access genetic diversity.** *BioTechniques*
Lipshutz, R. J., Morris, D., Chee, M., Hubbell, E., Kozal, M. J., Shah, N., Shen, N., Yang, R., Fodor, S. P.
1995; 19 (3): 442-7
- **DETECTION OF DRUG-RESISTANCE MUTATIONS IN THE HUMAN-IMMUNODEFICIENCY-VIRUS TYPE-1 (HIV-1) POL GENE - DIFFERENCES IN SEMEN AND BLOOD HIV-1 RNA AND PROVIRAL DNA** *JOURNAL OF INFECTIOUS DISEASES*
KROODSMA, K. L., Kozal, M. J., Hamed, K. A., Winters, M. A., Merigan, T. C.
1994; 170 (5): 1292-1295
- **DIDANOSINE RESISTANCE IN HIV-INFECTED PATIENTS SWITCHED FROM ZIDOVUDINE TO DIDANOSINE MONOTHERAPY** *ANNALS OF INTERNAL MEDICINE*
Kozal, M. J., Kroodsma, K., Winters, M. A., Shafer, R. W., Efron, B., Katzenstein, D. A., Merigan, T. C.
1994; 121 (4): 263-268
- **HIV-1 SYNCYTIUM-INDUCING PHENOTYPE, VIRUS BURDEN CODON-215 REVERSE-TRANSCRIPTASE MUTATION AND CD4 CELL DECLINE IN ZIDOVUDINE-TREATED PATIENTS** *JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES AND HUMAN RETROVIROLOGY*
Kozal, M. J., Shafer, R. W., Winters, M. A., Katzenstein, D. A., Aguiniga, E., Halpern, J., Merigan, T. C.
1994; 7 (8): 832-838
- **PREVALENCE OF HIV-1 SYNCYTIUM-INDUCING PHENOTYPE** *ANNALS OF INTERNAL MEDICINE*
Kozal, M. J., Ramachandran, R. V., Shafer, W.
1994; 120 (9): 811-811
- **COMBINATION THERAPY WITH ZIDOVUDINE AND DIDANOSINE SELECTS FOR DRUG-RESISTANT HUMAN-IMMUNODEFICIENCY-VIRUS TYPE-1 STRAINS WITH UNIQUE PATTERNS OF POL GENE-MUTATIONS** *JOURNAL OF INFECTIOUS DISEASES*
Shafer, R. W., Kozal, M. J., Winters, M. A., Iversen, A. K., Katzenstein, D. A., Ragni, M. V., Meyer, W. A., Gupta, P., Rasheed, S., COOMBS, R., Katzman, M., Fiscus, S., Merigan, et al
1994; 169 (4): 722-729
- **THERAPY OF HIV-1 INFECTION** *CURRENT OPINION IN INFECTIOUS DISEASES*
Kozal, M. J., Merigan, T. C.
1994; 7 (1): 72-81
- **MEASUREMENT OF HIV VIRUS LOAD AND GENOTYPIC RESISTANCE BY GENE AMPLIFICATION IN ASYMPTOMATIC SUBJECTS TREATED WITH COMBINATION THERAPY** *JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES*

Holodniy, M., KATZENSTEIN, D., Winters, M., Montoya, J., Shafer, R., Kozal, M., Ragni, M., Merigan, T. C.
1993; 6 (4): 366-369

● **A MUTATION IN HUMAN-IMMUNODEFICIENCY-VIRUS REVERSE-TRANSCRIPTASE AND DECLINE IN LYMPHOCYTE-CD4 NUMBERS IN LONG-TERM ZIDOVUDINE RECIPIENTS** *JOURNAL OF INFECTIOUS DISEASES*

Kozal, M. J., Shafer, R. W., Winters, M. A., Katzenstein, D. A., Merigan, T. C.
1993; 167 (3): 526-532

● **ZIDOVUDINE SUSCEPTIBILITY TESTING OF HUMAN-IMMUNODEFICIENCY-VIRUS TYPE-1 (HIV) CLINICAL ISOLATES** *JOURNAL OF VIROLOGICAL METHODS*

Shafer, R. W., Kozal, M. J., Katzenstein, D. A., LIPIL, W. H., JOHNSTONE, I. F., Merigan, T. C.
1993; 41 (3): 297-310