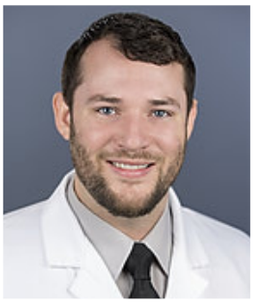

Kyle David Fink, Ph.D.

Philosophy of Care

My lab is focused on developing novel interventions in a very patient-centric fashion. Our lab uses translational approaches to advance novel disease-modifying treatments closer to clinical trials with the hope of making a clinical impact for the rare-disease community.

Research/Academic Interests

Dr. Fink's lab is focused on the therapeutic development of gene modifying modalities such as Zinc Fingers, Transcription Activator-like Effectors, and CRISPR/Cas9 to treat genetically-linked neurological disorders. Dr. Fink's unique academic training and research experience have provided me with an excellent background in multiple biological disciplines including neuroscience, molecular biology, microbiology, chemistry, and genetics. As a graduate student with Dr. Gary Dunbar and Dr. Laurent Lescaudron, my research focused on therapeutic potential of genetically-engineered stem cells in animal models of Huntington's disease. This work was performed under an international fellowship provided by the French Embassy of Science and Technology to work with a neuroimmunology group at an INSERM lab in France. During his undergraduate and graduate careers, he received several research awards, including the being named the top neuroscience predoctoral student in the state of Michigan. During my postdoctoral training, Dr. Fink was awarded a Ruth L. Kirschstein National Research Service Award from the NIH to develop novel gene therapies for Huntington's Disease, with Dr. Jan Nolta, a world's leader in regenerative medicine. Dr. Fink has also played an integral role in obtaining grant funding from NIH, CIRM, UPenn Orphan Disease Center, the Loulou Foundation and Rett Syndrome Trust to develop gene modifying therapies. His lab is focused on translating novel gene modifying therapeutics using patient-derived human iPSC, transgenic rodents, and large animals for translation.
Dr. Fink's group focuses on assessments of cellular phenotypes in human models of disease, such as induced pluripotent stem cells, indictors of molecular efficacy in transgenic rodent models, and optimization of delivery modalities, such as viral vectors, liponanoparticles and hemapoetic blood and mesenchymal stem cells.

Title Assistant Professor, Department of Neurology

Specialty Genetically-linked Neurological Diseases, Gene Modification, Genetics, Huntington's Disease, Angelman Syndrome, CDKL5 Deficiency

Department Neurology

Division Neurology

Center/Program Affiliation Stem Cell Research Program

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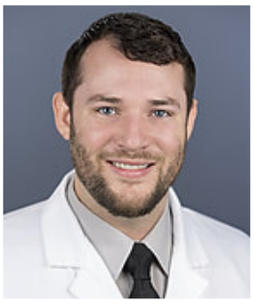

Kyle David Fink, Ph.D.

UC Davis MIND Institute

Institute for Regenerative Cures

Additional Phone Phone: 916-703-9368

Physician Referrals: 800-4-UCDAVIS (800-482-3284)

Email kdfink@ucdavis.edu

Education

Ph.D., Neurosciene, Central Michigan University, Mount Pleasant MI 2013

Ph.D., Neuroscience, University of Nantes, Nantes, France 2013

B.A., University of Portland, Portland OR 2008

Fellowships

Ruth L Kirschstein Postdoctoral Scholar National Research Service Award, Stem Cell Program, UC Davis Medical Center, Sacramento CA 2014-2017

Professional Memberships

American Society for Neural Therapy and Repair

American Society of Neural Therapy and Repair, Education Chair

American Society of Neural Therapy and Repair, Educational Committee

American Society of Neural Therapy and Repair, Program Committee

Brain Research Bulletin, Associate Editor

Faculty for Undergraduate Neuroscience

Frontiers in Neuroscience, Topic Editor

Huntington Study Group

Huntington's Outreach Project for Education

National Neurotrauma Society (NNS)

Rett Syndrome Research Trust, X-Reactivation Consortium

Rettsyndrome.org, Scientific Advisory Board

Society for Neuroscience

UC Davis, Department of Neurology Research Committee

World Congress on Huntington's Disease

Honors and Awards

Excellence in Research Award, WeHaveAFace.org, 2018

Hope Award, WeHaveAFace.org, Annual Convention, 2017

Hot Topic in Neuroscience, Society for Neuroscience, 2015, 2017

Travel Award, NINDS SfN Satellite Meeting on 3D Disease Modeling, 2016

Undergraduate Travel Award (Mentor), Faculty for Undergraduate Neuroscience, 2015, 2016

Travel Grant Award, ASNTR 2012, 2013, 2015

Best Talk Award, UC Davis Postdoctoral Research Symposium, 2015

Ruth L. Kirschstein National Research Service Award Individual Postdoctoral Fellowship, NIH National Institute for Neurological Disease and Stroke, 2014, 2015, 2016

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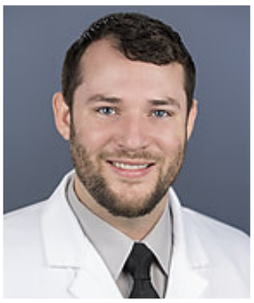


Kyle David Fink, Ph.D.

Founder's Award, Michigan Chapter Society for Neuroscience, 2013
2nd Place Poster Competition, Midwest Conference of Stem Cell Biology and Therapy, 2012
Chateaubriand Fellowship, French Embassy of Science and Technology, 2010, 2011, 2012, 2013
Student Travel Award, National Neurotrauma Society, 2008

Select Recent Publications

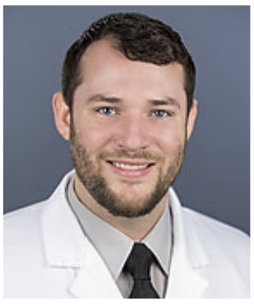
Halmai JANM, Deng P, Gonzalez CE, Coggins NB, Cameron D, Carter JL, Buchanan FKB, Waldo JJ, Lock SR, Anderson JD, O'Geen H, Segal DJ, Nolta J, Fink KD. Artificial escape from XCI by DNA methylation editing of the CDKL5 gene. Nucleic Acids Res. 2020 Mar 18;48(5):2372-2387. doi:10.1093/nar/gkz1214. PMID:31925439.

Berg EL, Pride MC, Petkova SP, Lee RD, Copping NA, Shen Y, Adhikari A, Fenton TA, Pedersen LR, Noakes LS, Nieman BJ, Lerch JP, Harris S, Born HA, Peters MM, Deng P, Cameron DL, Fink KD, Beitnere U, O'Geen H, Anderson AE, Dindot SV, Nash KR, Weeber EJ, Wöhr M, Ellegood J, Segal DJ, Silverman JL. Translational outcomes in a full gene deletion of ubiquitin protein ligase E3A rat model of Angelman syndrome. Transl Psychiatry. 2020 Jan 27;10(1):39. doi:10.1038/s41398-020-0720-2. PMID:32066685.

O'Geen H, Bates SL, Carter SS, Nisson KA, Halmai J, Fink KD, Rhie SK, Farnham PJ, Segal DJ. Ezh2-dCas9 and KRAB-dCas9 enable engineering of epigenetic memory in a context-dependent manner. Epigenetics Chromatin. 2019 May 3;12(1):26. doi:10.1186/s13072-019-0275-8. PMID: 31053162.

Fink KD, Deng P, Gutierrez J, Anderson JS, Torrest A, Komarla A, Kalomoiris S, Cary W, Anderson JD, Gruenloh W, Duffy A, Tempkin T, Annett G, Wheelock V, Segal DJ, Nolta JA. Allele-Specific Reduction of the Mutant Huntingtin Allele Using Transcription Activator-Like Effectors in Human Huntington's Disease Fibroblasts. Cell Transplant. 2016;25(4):677-86. doi:10.3727/096368916X690863. Epub 2016 Feb 4. PMID:26850319.

Pollock K, Dahlenburg H, Nelson H, Fink KD, Cary W, Hendrix K, Annett G, Torrest A, Deng P, Gutierrez J, Nacey C, Pepper K, Kalomoiris S, D Anderson J, McGee J, Gruenloh W, Fury B, Bauer G, Duffy A, Tempkin T, Wheelock V, Nolta JA. Human Mesenchymal Stem Cells Genetically Engineered to Overexpress Brain-derived Neurotrophic Factor Improve Outcomes in Huntington's



Kyle David Fink, Ph.D.

Disease Mouse Models. Mol Ther. 2016 May;24(5):965-77. doi:10.1038/mt.2016.12. Epub 2016 Jan 14. PMID:26765769.

Rossignol J, Fink KD, Crane AT, Davis KK, Bombard MC, Clerc S, Bavar AM, Lowrance SA, Song C, Witte S, Lescaudron L, Dunbar GL. Reductions in behavioral deficits and neuropathology in the R6/2 mouse model of Huntington's disease following transplantation of bone-marrow-derived mesenchymal stem cells is dependent on passage number. Stem Cell Res Ther. 2015 Feb 19;6(1):9. doi:10.1186/scrt545. PMID:25971780.

Fink KD, Crane AT, Lévêque X, Dues DJ, Huffman LD, Moore AC, Story DT, Dejonge RE, Antcliff A, Starski PA, Lu M, Lescaudron L, Rossignol J, Dunbar GL. Intrastriatal transplantation of adenovirus-generated induced pluripotent stem cells for treating neuropathological and functional deficits in a rodent model of Huntington's disease. Stem Cells Transl Med. 2014 May;3(5):620-31. doi:10.5966/sctm.2013-0151. Epub 2014 Mar 21. PMID:24657963.

Fink KD, Rossignol J, Lu M, Lévêque X, Hulse TD, Crane AT, Nerriere-Daguin V, Wyse RD, Starski PA, Schloop MT, Dues DJ, Witte SJ, Song C, Vallier L, Nguyen TH, Naveilhan P, Anegon I, Lescaudron L, Dunbar GL. Survival and differentiation of adenovirus-generated induced pluripotent stem cells transplanted into the rat striatum. Cell Transplant. 2014;23(11):1407-23. doi:10.3727/096368913X670958. Epub 2013 Jul 22. PMID:23879897.

Rossignol J, Fink K, Davis K, Clerc S, Crane A, Matchynski J, Lowrance S, Bombard M, Dekorver N, Lescaudron L, Dunbar GL. Transplants of adult mesenchymal and neural stem cells provide neuroprotection and behavioral sparing in a transgenic rat model of Huntington's disease. Stem Cells. 2014 Feb;32(2):500-9. doi:10.1002/stem.1508. PMID:23939879.

Fink KD, Rossignol J, Crane AT, Davis KK, Bombard MC, Bavar AM, Clerc S, Lowrance SA, Song C, Lescaudron L, Dunbar GL. Transplantation of umbilical cord-derived mesenchymal stem cells into the striata of R6/2 mice: behavioral and neuropathological analysis. Stem Cell Res Ther. 2013 Oct 24;4(5):130. doi:10.1186/scrt341. PMID:24456799.

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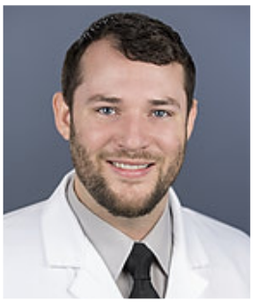

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