




Tony Wyss-Coray, PhD

D. H. Chen Professor II

Neurology

 NIH Biosketch available Online

 Resume available Online

CONTACT INFORMATION

• Alternate Contact

Divya Channappa - Research Program Manager, Wyss-Coray Lab

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Bio

BIO

Tony Wyss-Coray is the D.H. Chen Distinguished Professor of Neurology and Neurological Sciences and the Director of the Phil and Penny Knight Initiative for Brain Resilience at Stanford University. His lab studies brain aging and neurodegeneration with a focus on age-related cognitive decline and Alzheimer's disease. The Wyss-Coray research team discovered that circulatory blood factors can modulate brain structure and function and factors from young organisms can rejuvenate old brains. Current studies focus on the molecular basis of the systemic communication with the brain by employing a combination of genetic, cell biology, and -omics approaches in killifish, mice, and humans. Wyss-Coray has presented his ideas at Global TED, the Tencent WE Summit, and the World Economic Forum, and he was voted Time Magazine's "The Health Care 50" most influential people transforming health care in 2018. He co-founded Alkahest Inc. and several other companies targeting Alzheimer's and neurodegeneration and has been the recipient of an NIH Director's Pioneer Award, a Zenith Award from the Alzheimer's Association, and a NOMIS Foundation Award.

ACADEMIC APPOINTMENTS

- Professor, Neurology
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Director, Phil and Penny Knight Initiative for Brain Resilience, (2022- present)

HONORS AND AWARDS

- Glenn Award, Glenn Foundation for Medical Research (2015)
- NIH Pioneer Award, NIH Director's Office/NIA (2015)
- Transformative R01, NIH Director's Office/NIA (2013)

- Senior Research Career Scientist, Veterans Administration (2012)
- Distinguished Scholar Award, The John Douglas French Alzheimer's Foundation (2005)
- Zenith Award, Alzheimer's Association (2005)
- Editor, Journal of Neuroinflammation (2004)
- Medical and Scientific Advisory Council, Alzheimer's Association of Northern California & Northern Nevada (2004)

PROFESSIONAL EDUCATION

- M.S., University of Bern, Switzerland , Microbiology (1989)
- Ph.D., University of Bern, Switzerland , Immunology (1992)

LINKS

- Lab Website: <http://web.stanford.edu/group/twclab/cgi-bin/>
- Alzheimer Disease Research Center: <http://med.stanford.edu/adrc.html>
- Knight Initiative: <https://neuroscience.stanford.edu/initiatives-and-centers/phil-and-penny-knight-initiative-brain-resilience>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our laboratory studies the role of immune and injury responses in neurodegeneration and Alzheimer's disease. We seek to understand how immune responses and injury pathways may modulate neurodegeneration and age-related changes in the brain. We study these pathways in vivo and in cell culture using a number of genetic and proteomic tools. We have been particularly interested in the TGF-beta signaling pathway as a major regulator of biological processes and we are developing genetic and pharmacological agents to manipulate this pathway.

Teaching

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Lehi Acosta-Alvarez, Karen Bradshaw, Meena Chakraborty, Tamara Chan, Michelle Drews, Connor Duffy, Sofia Essayan-Perez, Charlotte Herber, Cindy Lin, Keiramarie Robertson, Olivia Zhou

Postdoctoral Faculty Sponsor

Ian Guldner, Michael Haney, Nannan Lu, Michael Schoof, Bhawika Sharma Lamichhane, Andy Tsai

Doctoral Dissertation Advisor (AC)

Karen Bradshaw, Emma Costa, Amelia Farinas, Hamilton Oh, Archana Shankar, Sophia Shi

Doctoral Dissertation Co-Advisor (AC)

Jarod Rutledge

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (Phd Program)
- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Platelet factors are induced by longevity factor klotho and enhance cognition in young and aging mice.** *Nature aging*
Park, C., Hahn, O., Gupta, S., Moreno, A. J., Marino, F., Kedir, B., Wang, D., Villeda, S. A., Wyss-Coray, T., Dubal, D. B.
2023
- **Proteomics of brain, CSF, and plasma identifies molecular signatures for distinguishing sporadic and genetic Alzheimer's disease.** *Science translational medicine*
Sung, Y. J., Yang, C., Norton, J., Johnson, M., Fagan, A., Bateman, R. J., Perrin, R. J., Morris, J. C., Farlow, M. R., Chhatwal, J. P., Schofield, P. R., Chui, H., Wang, et al
2023; 15 (703): eabq5923
- **Characterizing expression changes in noncoding RNAs during aging and heterochronic parabiosis across mouse tissues.** *Nature biotechnology*
Wagner, V., Kern, F., Hahn, O., Schaum, N., Ludwig, N., Fehlmann, T., Engel, A., Henn, D., Rishik, S., Isakova, A., Tan, M., Sit, R., Neff, et al
2023
- **Activated immune cells drive neurodegeneration** *NATURE*
Guldner, I. H., Wyss-Coray, T.
2023; 615 (7953): 588-589
- **Activated immune cells drive neurodegeneration in an Alzheimer's model.** *Nature*
Guldner, I. H., Wyss-Coray, T.
2023; 615 (7953): 588-589
- **Sirtuin-2, NAD-Dependent Deacetylase, Is a New Potential Therapeutic Target for HIV-1 Infection and HIV-Related Neurological Dysfunction.** *Journal of virology*
Duran-Castells, C., Llano, A., Kawana-Tachikawa, A., Prats, A., Martinez-Zalacain, I., Kobayashi-Ishihara, M., Oriol-Tordera, B., Pena, R., Galvez, C., Silva-Arrieta, S., Clotet, B., Riveira-Munoz, E., Ballana, et al
2023; e0165522
- **Cell-type-specific aging clocks to quantify aging and rejuvenation in neurogenic regions of the brain.** *Nature aging*
Buckley, M. T., Sun, E. D., George, B. M., Liu, L., Schaum, N., Xu, L., Reyes, J. M., Goodell, M. A., Weissman, I. L., Wyss-Coray, T., Rando, T. A., Brunet, A.
2023; 3 (1): 121-137
- **Ageing-associated small RNA cargo of extracellular vesicles.** *RNA biology*
Kern, F., Kuhn, T., Ludwig, N., Simon, M., Groger, L., Fabis, N., Aparicio-Puerta, E., Salhab, A., Fehlmann, T., Hahn, O., Engel, A., Wagner, V., Koch, et al
2023; 20 (1): 482-494
- **Cell-type-specific aging clocks to quantify aging and rejuvenation in neurogenic regions of the brain** *NATURE AGING*
Buckley, M. T., Sun, E. D., George, B. M., Liu, L., Schaum, N., Xu, L., Reyes, J. M., Goodell, M. A., Weissman, I. L., Wyss-Coray, T., Rando, T. A., Brunet, A.
2023; 3 (1): 121-+
- **Author Correction: Young CSF restores oligodendrogenesis and memory in aged mice via Fgf17.** *Nature*
Iram, T., Kern, F., Kaur, A., Myneni, S., Morningstar, A. R., Shin, H., Garcia, M. A., Yerra, L., Palovics, R., Yang, A. C., Hahn, O., Lu, N., Shuken, et al
2022
- **Cerebrospinal fluid immune dysregulation during healthy brain aging and cognitive impairment.** *Cell*
Piehl, N., van Olst, L., Ramakrishnan, A., Teregulova, V., Simonton, B., Zhang, Z., Tapp, E., Channappa, D., Oh, H., Losada, P. M., Rutledge, J., Trelle, A. N., Mormino, et al
2022
- **GhostKnockoff inference empowers identification of putative causal variants in genome-wide association studies.** *Nature communications*
He, Z., Liu, L., Belloy, M. E., Le Guen, Y., Sossin, A., Liu, X., Qi, X., Ma, S., Gyawali, P. K., Wyss-Coray, T., Tang, H., Sabatti, C., Candes, et al
2022; 13 (1): 7209
- **Performance of a fully-automated Lumipulse plasma phospho-tau181 assay for Alzheimer's disease.** *Alzheimer's research & therapy*
Wilson, E. N., Young, C. B., Ramos Benitez, J., Swarovski, M. S., Feinstein, I., Vandijck, M., Le Guen, Y., Kasireddy, N. M., Shahid, M., Corso, N. K., Wang, Q., Kennedy, G., Trelle, et al

2022; 14 (1): 172

- **An automated feeding system for the African killifish reveals effects of dietary restriction on lifespan and allows scalable assessment of associative learning.** *eLife*
McKay, A., Costa, E. K., Chen, J., Hu, C., Chen, X., Bedbrook, C. N., Khondker, R. C., Thielvoldt, M., Priya Singh, P., Wyss-Coray, T., Brunet, A.
2022; 11
- **Microglia states and nomenclature: A field at its crossroads.** *Neuron*
Paolicelli, R. C., Sierra, A., Stevens, B., Tremblay, M. E., Aguzzi, A., Ajami, B., Amit, I., Audinat, E., Bechmann, I., Bennett, M., Bennett, F., Bessis, A., Biber, et al
2022; 110 (21): 3458-3483
- **Microglia states and nomenclature: A field at its crossroads** *NEURON*
Paolicelli, R. C., Sierra, A., Stevens, B., Tremblay, M., Aguzzi, A., Ajami, B., Amit, I., Audinat, E., Bechmann, I., Bennett, M., Bennett, F., Bessis, A., Biber, et al
2022; 110 (21): 3458-3483
- **Transcriptomic Profiling Identifies CD8+ T Cells in the Brain of Aged and Alzheimer's Disease Transgenic Mice as Tissue-Resident Memory T Cells.** *Journal of immunology (Baltimore, Md. : 1950)*
Altendorfer, B., Unger, M. S., Poupardin, R., Hoog, A., Asslauer, D., Gratz, I. K., Mrowetz, H., Benedetti, A., Bessa de Sousa, D. M., Greil, R., Egle, A., Gate, D., Wyss-Coray, et al
2022
- **Postmortem Human Dura Mater Cells Exhibit Phenotypic, Transcriptomic and Genetic Abnormalities that Impact their Use for Disease Modeling.** *Stem cell reviews and reports*
Argouarch, A. R., Schultz, N., Yang, A. C., Jang, Y., Garcia, K., Cosme, C. G., Corrales, C. I., Nana, A. L., Karydas, A. M., Spina, S., Grinberg, L. T., Miller, B., Wyss-Coray, et al
2022
- **An IL1RL1 genetic variant lowers soluble ST2 levels and the risk effects of APOE-#4 in female patients with Alzheimer's disease.** *Nature aging*
Jiang, Y., Zhou, X., Wong, H. Y., Ouyang, L., Ip, F. C., Chau, V. M., Lau, S. F., Wu, W., Wong, D. Y., Seo, H., Fu, W. Y., Lai, N. C., Chen, et al
2022; 2 (7): 616-634
- **Structural changes in cerebrospinal fluid proteins are associated with brain aging (Vol 2, pg 375, 2022)** *NATURE AGING*
Shuken, S. R., Wyss-Coray, T.
2022; 2 (7): 679
- **An IL1RL1 genetic variant lowers soluble ST2 levels and the risk effects of APOE-epsilon 4 in female patients with Alzheimer's disease** *NATURE AGING*
Jiang, Y., Zhou, X., Wong, H., Ouyang, L., Ip, F. F., Chau, V. N., Lau, S., Wu, W., Wong, D. K., Seo, H., Fu, W., Lai, N. H., Chen, et al
2022; 2 (7): 616+
- **Unraveling protein dynamics to understand the brain - the next molecular frontier.** *Molecular neurodegeneration*
Brewer, K. D., Shi, S. M., Wyss-Coray, T.
2022; 17 (1): 45
- **Measuring biological age using omics data.** *Nature reviews. Genetics*
Rutledge, J., Oh, H., Wyss-Coray, T.
2022
- **The Tabula Sapiens: A multiple-organ, single-cell transcriptomic atlas of humans.** *Science (New York, N.Y.)*
Jones, R. C., Karkanas, J., Krasnow, M. A., Pisco, A. O., Quake, S. R., Salzman, J., Yosef, N., Bulthaupt, B., Brown, P., Harper, W., Hemenez, M., Ponnusamy, R., Salehi, et al
2022; 376 (6594): eabl4896
- **Young CSF restores oligodendrogenesis and memory in aged mice via Fgf17.** *Nature*
Iram, T., Kern, F., Kaur, A., Myneni, S., Morningstar, A. R., Shin, H., Garcia, M. A., Yerra, L., Palovics, R., Yang, A. C., Hahn, O., Lu, N., Shuken, et al
2022
- **Publisher Correction: Limited proteolysis-mass spectrometry reveals aging-associated changes in cerebrospinal fluid protein abundances and structures.** *Nature aging*
Shuken, S. R., Rutledge, J., Iram, T., Losada, P. M., Wilson, E. N., Andreasson, K. I., Leib, R. D., Wyss-Coray, T.
2022; 2 (5): 455

- **Limited proteolysis-mass spectrometry reveals aging-associated changes in cerebrospinal fluid protein abundances and structures (vol 2, pg 379, 2022) NATURE AGING**
Shuken, S. R., Rutledge, J., Iram, T., Losada, P., Wilson, E. N., Andreasson, K. I., Leib, R. D., Wyss-Coray, T.
2022; 2 (5): 455
- **Structural changes in cerebrospinal fluid proteins are associated with brain aging NATURE AGING**
Shuken, S. R., Wyss-Coray, T.
2022; 2 (5): 375-376
- **KL1 domain of longevity factor klotho mimics the metabolome of cognitive stimulation and enhances cognition in young and aging mice. The Journal of neuroscience : the official journal of the Society for Neuroscience**
Gupta, S., Moreno, A. J., Wang, D., Leon, J., Chen, C., Hahn, O., Poon, Y., Greenberg, K., David, N., Wyss-Coray, T., Raftery, D., Promislow, D. E., Dubal, et al
2022
- **Publisher Correction: Cell types of origin of the cell-free transcriptome. Nature biotechnology**
Vorperian, S. K., Moufarrej, M. N., Tabula Sapiens Consortium, Quake, S. R., Jones, R. C., Karkaniyas, J., Krasnow, M., Pisco, A. O., Quake, S. R., Salzman, J., Yosef, N., Bulthaupt, B., Brown, P., et al
2022
- **Small molecule C381 targets the lysosome to reduce inflammation and ameliorate disease in models of neurodegeneration. Proceedings of the National Academy of Sciences of the United States of America**
Vest, R. T., Chou, C. C., Zhang, H., Haney, M. S., Li, L., Laqtom, N. N., Chang, B., Shuken, S., Nguyen, A., Yerra, L., Yang, A. C., Green, C., Tanga, et al
2022; 119 (11): e2121609119
- **Molecular hallmarks of heterochronic parabiosis at single-cell resolution. Nature**
Palovics, R., Keller, A., Schaum, N., Tan, W., Fehlmann, T., Borja, M., Kern, F., Bonanno, L., Calcuttawala, K., Webber, J., McGeever, A., Tabula Muris Consortium, Luo, J., et al
2022
- **A human brain vascular atlas reveals diverse mediators of Alzheimer's risk. Nature**
Yang, A. C., Vest, R. T., Kern, F., Lee, D. P., Agam, M., Maat, C. A., Losada, P. M., Chen, M. B., Schaum, N., Khoury, N., Toland, A., Calcuttawala, K., Shin, et al
2022
- **Molecular map of the human blood-brain barrier reveals links to Alzheimer's disease NATURE**
Vest, R. T., Wyss-Coray, T.
2022
- **Cell types of origin of the cell-free transcriptome. Nature biotechnology**
Vorperian, S. K., Moufarrej, M. N., Tabula Sapiens Consortium, Quake, S. R., Jones, R. C., Karkaniyas, J., Krasnow, M., Pisco, A. O., Quake, S. R., Salzman, J., Yosef, N., Bulthaupt, B., Brown, P., et al
2022
- **Corrigendum: Long-Term Cognitive Impairments and Pathological Alterations in a Mouse Model of Repetitive Mild Traumatic Brain Injury. Frontiers in neurology**
Luo, J., Nguyen, A., Villeda, S., Zhang, H., Ding, Z., Lindsey, D., Bieri, G., Castellano, J. M., Beaupre, G. S., Wyss-Coray, T.
2022; 13: 730576
- **Limited proteolysis-mass spectrometry reveals aging-associated changes in cerebrospinal fluid protein abundances and structures Nature Aging**
Shuken, S. R., Rutledge, J., Iram, T., Moran Losada, P., Wilson, E. N., Andreasson, K. I., Leib, R. D., Wyss-Coray, T.
2022
- **Small molecule C381 targets the lysosome to reduce inflammation and ameliorate disease in models of neurodegeneration Proc Natl Acad Sci U S A .**
Vest*, R. T., Chou*, C., Zhang, H., Haney, M. S., Li, L., Laqtom, N. N., Chang, B., Shuken, S., Nguyen, A., Yerra, L., Yang, A. C., Green, C., Tanga, et al
2022; 119 (11): e2121609119
- **Treatment of a genetic brain disease by CNS-wide microglia replacement. Science translational medicine**
Shibuya, Y., Kumar, K. K., Mader, M. M., Yoo, Y., Ayala, L. A., Zhou, M., Mohr, M. A., Neumayer, G., Kumar, I., Yamamoto, R., Marcoux, P., Liou, B., Bennett, et al
2022; 14 (636): eabl9945

- **Exercise plasma boosts memory and dampens brain inflammation via clusterin.** *Nature*
De Miguel, Z., Khoury, N., Betley, M. J., Lehallier, B., Willoughby, D., Olsson, N., Yang, A. C., Hahn, O., Lu, N., Vest, R. T., Bonanno, L. N., Yerra, L., Zhang, et al
2021
- **Targeting VCAM1 to reduce neuroinflammation in ischemia-triggered vascular dementia.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Zera, K. A., Peterson, T., Yousef, H., Lee, D., Wyss-Coray, T., Buckwalter, M. S.
1800; 17 Suppl 3: e053849
- **An oligomeric semiconducting nanozyme with ultrafast electron transfers alleviates acute brain injury.** *Science advances*
Mu, X., Wang, J., He, H., Li, Q., Yang, B., Wang, J., Liu, H., Gao, Y., Ouyang, L., Sun, S., Ren, Q., Shi, X., Hao, et al
2021; 7 (46): eabk1210
- **CD4+ T cells contribute to neurodegeneration in Lewy body dementia.** *Science (New York, N.Y.)*
Gate, D., Tapp, E., Leventhal, O., Shahid, M., Nonninger, T. J., Yang, A. C., Strempl, K., Unger, M. S., Fehlmann, T., Oh, H., Channappa, D., Henderson, V. W., Keller, et al
2021: eabf7266
- **Dysregulation of brain and choroid plexus cell types in severe COVID-19 (vol 595, pg 565, 2021) NATURE**
Yang, A. C., Kern, F., Losada, P. M., Agam, M. R., Maat, C. A., Schmartz, G. P., Fehlmann, T., Stein, J. A., Schaum, N., Lee, D. P., Calcuttawala, K., Vest, R. T., Berdnik, et al
2021
- **miRNATissueAtlas2: an update to the human miRNA tissue atlas.** *Nucleic acids research*
Keller, A., Groger, L., Tschernig, T., Solomon, J., Laham, O., Schaum, N., Wagner, V., Kern, F., Schmartz, G. P., Li, Y., Borchering, A., Meier, C., Wyss-Coray, et al
2021
- **RNA splicing programs define tissue compartments and cell types at single-cell resolution** *ELIFE*
Olivieri, J., Dehghannasiri, R., Wang, P. L., Jang, S., de Morree, A., Tan, S. Y., Ming, J., Wu, A., Consortium, T., Quake, S. R., Krasnow, M. A., Salzman, J.
2021; 10
- **Author Correction: An inflammatory aging clock (iAge) based on deep learning tracks multimorbidity, immunosenescence, frailty and cardiovascular aging.** *Nature aging*
Sayed, N., Huang, Y., Nguyen, K., Krejciova-Rajaniemi, Z., Grawe, A. P., Gao, T., Tibshirani, R., Hastie, T., Alpert, A., Cui, L., Kuznetsova, T., Rosenberg-Hasson, Y., Ostan, et al
2021; 1 (8): 748
- **Peripheral B-cells repress B-cell regeneration in aging through a TNFalpha/IGFBP-1/IGF1 immune-endocrine axis.** *Blood*
Dowery, R., Benhamou, D., Benchetrit, E., Harel, O., Nevelsky, A., Zisman-Rozen, S., Braun-Moscovici, Y., Balbir-Gurman, A., Avivi, I., Shechter, A., Berdnik, D., Wyss-Coray, T., Melamed, et al
2021
- **An inflammatory aging clock (iAge) based on deep learning tracks multimorbidity, immunosenescence, frailty and cardiovascular aging.** *Nature aging*
Sayed, N., Huang, Y., Nguyen, K., Krejciova-Rajaniemi, Z., Grawe, A. P., Gao, T., Tibshirani, R., Hastie, T., Alpert, A., Cui, L., Kuznetsova, T., Rosenberg-Hasson, Y., Ostan, et al
2021; 1: 598-615
- **Dysregulation of brain and choroid plexus cell types in severe COVID-19.** *Nature*
Yang, A. C., Kern, F., Losada, P. M., Agam, M. R., Maat, C. A., Schmartz, G. P., Fehlmann, T., Stein, J. A., Schaum, N., Lee, D. P., Calcuttawala, K., Vest, R. T., Berdnik, et al
2021
- **Aging and Rejuvenation of Oligodendrocytes**
Iram, T., Kern, F., Kaur, A., Myneni, S., Garcia, M., Yerra, L., Lou, J., Zetterberg, H., Keller, A., Zuchero, J., Wyss-Coray, T.
SAGE PUBLICATIONS LTD.2021: 5-6
- **Deep sequencing of sncRNAs reveals hallmarks and regulatory modules of the transcriptome during Parkinson's disease progression.** *Nature aging*
Kern, F., Fehlmann, T., Violich, I., Alsop, E., Hutchins, E., Kahraman, M., Grammes, N. L., Guimaraes, P., Backes, C., Poston, K. L., Casey, B., Balling, R., Geffers, et al

2021; 1 (3): 309-322

- **A neuronal blood marker is associated with mortality in old age.** *Nature aging*
Kaeser, S. A., Lehallier, B., Thinggaard, M., Häslér, L. M., Apel, A., Bergmann, C., Berdnik, D., Jeune, B., Christensen, K., Grönke, S., Partridge, L., Wyss-Coray, T., Mengel-From, et al
2021; 1 (2): 218-225
- **Methods to investigate intrathecal adaptive immunity in neurodegeneration.** *Molecular neurodegeneration*
Oh, H. n., Leventhal, O. n., Channappa, D. n., Henderson, V. W., Wyss-Coray, T. n., Lehallier, B. n., Gate, D. n.
2021; 16 (1): 3
- **Genome-wide analysis of common and rare variants via multiple knockoffs at biobank scale, with an application to Alzheimer disease genetics.** *American journal of human genetics*
He, Z., Le Guen, Y., Liu, L., Lee, J., Ma, S., Yang, A. C., Liu, X., Rutledge, J., Losada, P. M., Song, B., Belloy, M. E., Butler, R. R., Longo, et al
2021
- **The CD22-IGF2R interaction is a therapeutic target for microglial lysosome dysfunction in Niemann-Pick type C.** *Science translational medicine*
Pluvinage, J. V., Sun, J., Claes, C., Flynn, R. A., Haney, M. S., Iram, T., Meng, X., Lindemann, R., Riley, N. M., Danhash, E., Chadarevian, J. P., Tapp, E., Gate, et al
2021; 13 (622): eabg2919
- **Asynchronous, contagious and digital aging.** *Nature aging*
Rando, T. A., Wyss-Coray, T.
2021; 1 (1): 29-35
- **CoolMPS for robust sequencing of single-nuclear RNAs captured by droplet-based method.** *Nucleic acids research*
Hahn, O., Fehlmann, T., Zhang, H., Munson, C. N., Vest, R. T., Borcharding, A., Liu, S., Villarosa, C., Drmanac, S., Drmanac, R., Keller, A., Wyss-Coray, T.
2020
- **Eosinophils regulate adipose tissue inflammation and sustain physical and immunological fitness in old age.** *Nature metabolism*
Brigger, D., Riether, C., van Brummelen, R., Mosher, K. I., Shiu, A., Ding, Z., Zbaren, N., Gasser, P., Guntern, P., Yousef, H., Castellano, J. M., Storni, F., Graff-Radford, et al
2020
- **Physiological blood-brain transport is impaired with age by a shift in transcytosis.** *Nature*
Yang, A. C., Stevens, M. Y., Chen, M. B., Lee, D. P., Stahli, D., Gate, D., Contrepois, K., Chen, W., Iram, T., Zhang, L., Vest, R. T., Chaney, A., Lehallier, et al
2020
- **Influences of circulatory factors on intervertebral disc aging phenotype** *AGING-US*
Lei, C., Colangelo, D., Patil, P., Li, V., Ngo, K., Wang, D., Dong, Q., Yousefzadeh, M. J., Lin, H., Lee, J., Kang, J., Sowa, G., Wyss-Coray, et al
2020; 12 (12): 12285-304
- **GeneTrail 3: advanced high-throughput enrichment analysis.** *Nucleic acids research*
Gerstner, N., Kehl, T., Lenhof, K., Muller, A., Mayer, C., Eckhart, L., Grammes, N. L., Diener, C., Hart, M., Hahn, O., Walter, J., Wyss-Coray, T., Meese, et al
2020
- **Clonally expanded CD8 T cells patrol Alzheimer's cerebrospinal fluid**
Gate, D., Saligrama, N., Leventhal, O., Davis, M. M., Wyss-Coray, T.
AMER ASSOC IMMUNOLOGISTS.2020
- **Exercise rejuvenates quiescent skeletal muscle stem cells in old mice through restoration of Cyclin D1** *NATURE METABOLISM*
Brett, J. O., Arjona, M., Ikeda, M., Quarta, M., de Morree, A., Egner, I. M., Perandini, L. A., Ishak, H. D., Goshayeshi, A., Benjamin, D. I., Both, P., Rodriguez-Mateo, C., Betley, et al
2020; 2 (4): 307-+
- **Exercise rejuvenates quiescent skeletal muscle stem cells in old mice through restoration of Cyclin D1.** *Nature metabolism*
Brett, J. O., Arjona, M., Ikeda, M., Quarta, M., de Morrée, A., Egner, I. M., Perandini, L. A., Ishak, H. D., Goshayeshi, A., Benjamin, D. I., Both, P., Rodríguez-Mateo, C., Betley, et al
2020; 2 (4): 307-317
- **Brain Endothelial Cells Are Exquisite Sensors of Age-Related Circulatory Cues.** *Cell reports*

- Chen, M. B., Yang, A. C., Yousef, H., Lee, D., Chen, W., Schaum, N., Lehallier, B., Quake, S. R., Wyss-Coray, T.
2020; 30 (13): 4418
- **Systemic factors as mediators of brain homeostasis, ageing and neurodegeneration (vol 21, pg 93, 2020)** *NATURE REVIEWS NEUROSCIENCE*
Pluvinage, J. V., Wyss-Coray, T.
2020
 - **Author Correction: Lipid-droplet-accumulating microglia represent a dysfunctional and proinflammatory state in the aging brain.** *Nature neuroscience*
Marschallinger, J., Iram, T., Zardeneta, M., Lee, S. E., Lehallier, B., Haney, M. S., Pluvinage, J. V., Mathur, V., Hahn, O., Morgens, D. W., Kim, J., Tevini, J., Felder, et al
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