

John M. Greally, D.Med., Ph.D.

Positions:

Professor, Departments of Genetics, Medicine and Pediatrics

Member, Ruth L. and David S. Gottesman Institute for Stem Cell and Regenerative Medicine Research
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Research interests:

The Greally lab uses stem cells as the basis for their epigenetics research questions, defined as influences on cell fate decisions and on molecular genomic regulatory processes. Their mesenchymal stem cell program involves studies of endocrine disrupting chemicals and DNA sequence variability on cell fate determination, and pluripotent stem cells as the source for hepatic stellate cells, podocytes and neuronal cells for functional genomic studies.

Current grant funding:

5R01AG057422-04 (Greally/Lappalainen)	9/15/18 – 5/31/23
NIH	Understanding cellular and transcriptional regulatory
changes in	human aging
5U54AI138370-04 (Lipkin)	09/22/17-08/31/22
NIH Subcontract	Center for Solutions for ME/CFS

Recent publications (selected):

1. Pearson NM, Stolte C, Shi K, Beren F, Abul-Husn NS, Bertier G, Brown K, Diaz GA, Odgis JA, Suckiel SA, Horowitz CR, Wasserstein M, Gelb BD, Kenny EE, Gagnon C, Jobanputra V, Bloom T, Greally JM. GenomeDiver: a platform for phenotype-guided medical genomic diagnosis. *Genet Med*. 2021 Oct;23(10):1998-2002. doi:10.1038/s41436-021-01219-5. Epub 2021 Jun 10. PMID: 34113009; PMCID: PMC8488006.
2. Johnston AD, Simões-Pires CA, Thompson TV, Suzuki M, Greally JM. Functional genetic variants can mediate their regulatory effects through alteration of transcription factor binding. *Nat Commun*. 2019 Aug 2;10(1):3472. doi:10.1038/s41467-019-11412-5. PMID: 31375681; PMCID: PMC6677801.
3. Sato H, Wu B, Delahaye F, Singer RH, Greally JM. Retargeting of macroH2A following mitosis to cytogenetic-scale heterochromatic domains. *J Cell Biol*. 2019 Jun 3;218(6):1810-1823. doi: 10.1083/jcb.201811109. Epub 2019 May 20. PMID:31110057; PMCID: PMC6548134.
4. Nakahara F, Borger DK, Wei Q, Pinho S, Maryanovich M, Zahalka AH, Suzuki M, Cruz CD, Wang Z, Xu C, Boulais PE, Ma'ayan A, Greally JM, Frenette PS. Engineering a haematopoietic stem cell niche by revitalizing mesenchymal stromal cells. *Nat Cell Biol*. 2019 May;21(5):560-567. doi: 10.1038/s41556-019-0308-3. Epub 2019 Apr 15. PMID: 30988422; PMCID: PMC6499646.
5. Kong Y, Berko ER, Marcketta A, Maqbool SB, Simões-Pires CA, Kronn DF, Ye KQ, Suzuki M, Auton A, Greally JM. Detecting, quantifying, and discriminating the mechanism of mosaic chromosomal aneuploidies using MAD-seq. *Genome Res*. 2018 Jul;28(7):1039-1052. doi: 10.1101/gr.226282.117. Epub 2018 May 17. PMID:29773658; PMCID: PMC6028128.