Britta Will, Ph.D.

Positions:
Associate Professor, Department of Medicine
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Research interests:

My research focuses on (1) Uncovering molecular mechanisms that prevent hematopoietic stem cell aging, (2) identification of age-related disease-predisposing molecular alterations in hematologic malignancies, and (3) therapeutic eradication of aberrant hematopoietic stem cells in degenerative and malignant diseases of the hematopoietic system. As the management of these adult stem cell-derived diseases is still inefficient they constitute a considerable health problem due to the lack of knowledge of the molecular and cellular underpinnings driving adult stem cell aging.

Current grant funding:

R01 CA230756 (NIH/NCI)	Will (PI)	07/2018 - 06/2023 Identification and targeting of pathways separating healthy stem cell aging from malignant transformation
P01 AG031782 (NIH/NIA)	Cuervo (PI)	05/2020 - 04/2025 Functional Consequences of Impaired Autophagy in Aging
R01 HL157948 (NIH/NHLBI)	Steidl/Will (Co-PI)	04/2021 – 02/2025 Contribution of macrophages in the HSC niche
PSSCRA Young investigator Prize (Pershing Square Sohn Cancer Research Alliance)	Will (PI)	07/01/20 – 06/30/23 Iron homeostasis regulatory pathways in cancer stem cells

Recent publications (selected):

1. Kao YR, Chen J, Kumari R,Tatiparthy M, Ma Y, Aivalioti MM, Zintiridou A, Thiruthuvanathan V, Reisz JA, Stranski S, Sidoli, Steidl U, D'AlessandroA, Will B. Cytoplasmic labile iron accumulates in aging stem cells perturbing a key rheostat for identity control. bioRxiv 2021.08.03.454947; doi: https://doi.org/10.1101/2021.08.03.454947
2. Dong S, Wang Q, Kao YR, Diaz A, Tasset I, Kaushik S, Thiruthuvanathan V, Zintiridou A, Nieves E, Dzieciatkowska M, Reisz JA, Gavathiotis E, D'Alessandro A, Will B* and Cuervo AM*. Chaperone-mediated autophagy sustains hematopoietic stem cell function. Nature 2021. https://doi.org/10.1038/s41586-020-03129-z (*co-corresponding authors)
3. Kao YR, Chen J, Narayanagari SR, Todorova TI, Aivalioti MM, Ferreira M, Ramos PM, Pallaud C, Mantzaris I, Shastri A, Bussel JB, Verma A, Steidl U, Will B. Thrombopoietin receptor-independent stimulation of hematopoietic stem cells by eltrombopag. Science Transl. Med. 2018; 10(458). PubMed PMID: 30209246.
4. Will B*, Vogler TO, Narayanagari S, Bartholdy B, Todorova TI, da Silva Ferreira M, Chen J, Yu Y, Mayer J, Barreyro L, Carvajal L, Neriah DB, Roth M, van Oers J, Schaetzlein S, McMahon C, Edelmann W, Verma A, Steidl U*. Minimal PU.1 reduction induces a preleukemic state and promotes development of acute myeloid leukemia. Nat Med. 2015 Oct;21(10):1172-81. PubMed PMID: 26343801. (*co-corresponding authors)
5. Will B, Zhou L, Vogler TO, Ben-Neriah S, Schinke C, Tamari R, Yu Y, Bhagat TD, Bhattacharyya S, Barreyro L, Heuck C, Mo Y, Parekh S, McMahon C, Pellagatti A, Boultwood J, Montagna C, Silverman L, Maciejewski J, Greally JM, Ye BH, List AF, Steidl C, Steidl U, Verma A. Stem and progenitor cells in myelodysplastic syndromes show aberrant stage-specific expansion and harbor genetic and epigenetic alterations. Blood. 2012 Sep 6;120(10):2076-86. PubMed PMID: 22753872; PubMed Central PMCID: PMC3437595.