



Discovery Science Emerging Scholars Lecture

“Leveraging Proteoglycans for Hematopoietic Stem Cell Regeneration”



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Although hematopoietic stem cells (HSCs) comprise less than 0.01% of the adult bone marrow, this rare cell population is capable of supporting the hematopoietic needs of an organism throughout their lifetime. However, when HSCs are unable to adapt to hematopoietic stress, life-threatening complications can arise. As such, it is essential we elucidate the basic regulatory mechanisms that underscore HSC regeneration. My postdoctoral research identified a novel surface marker that both identifies and regulates HSCs through parallel mechanisms. This surface marker is from the heparan sulfate family of proteoglycans and can be used to enrich for long-term HSCs capable of enhanced hematopoietic engraftment, expansion and self-renewal ability. Loss of function analyses determined that this heparan sulfate proteoglycan regulates HSC maintenance and myelopoiesis through alterations in cell cycling. Additional work analyzing how proteoglycans can be utilized to accelerate hematopoietic recovery after myelosuppression will be presented.

Tuesday
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4:00 pm

Zoom

This lecture series features the most promising young scientists who are making notable discoveries as postdoctoral fellows or early career faculty.

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