



CONVERGENCE

News, Links, and Insights
by JEFFREY BLAND, PHD



October 2019 - Mid-Month Bonus

Thank you for subscribing to Dr. Jeffrey Bland's newsletter. Enjoy and share this information, which is for educational purposes only. Always consult with a qualified healthcare professional when you are in need of medical advice, diagnosis, or treatment.

In this issue: The Vantage Point: The Seventh Annual Thought Leaders Consortium; For ANtitumor T Cells, Potassium Can Alter Immune Potential; Classic FMU: Walter Willett, MD

The Vantage Point: What's Been Happening in Dr. Bland's World?

Do you want to track Dr. Jeff Bland's activities, see photos from his travels, and find inspiration in his words? Follow his social media pages to stay connected!



The Seventh Annual Thought Leaders Consortium - Seattle

Over the past seven years, this annual conference has become a signature event for both the Personalized Lifestyle Medicine Institute and Dr. Jeff Bland. Believe it or not, the first meeting had very humble origins. Back in 2013, 40 attendees gathered at a boutique hotel near Sea-Tac airport, put their heads together for a 2-day brainstorm about healthcare innovation and transformation, and sketched out a roadmap for a path forward. What has transpired in the years since tells us that those were the right people, with the right ideas, at the right time.

Here's how things looked this year:

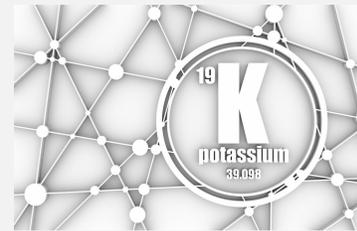
- 375 attendees
- 16 countries represented
- 25 sponsors and exhibitors
- A sell-out of rooms at the Hyatt



THANK YOU to everyone who has contributed to making the Thought Leaders Consortium a respected global event. Planning for our October 2020 meeting has already begun. We hope to see you there!

For Antitumor T Cells, Potassium Can Alter Immune Potential

Stem cells are typically unprogrammed cells possessing numerous potential futures until circumstances steer the naïve cells into more specialized forms most useful for an organism. Embryonic stem cells possess an enormous developmental range—into virtually any kind of cell in the body—while adult stem cells have narrower possibilities, mainly related to cell and tissue repair and rejuvenation. Hematopoietic stem cells, including those for immune cells, are a bit of a special case, as they are called into action as frequently as needed (and as possible), according to a host’s circumstances. Tumors also present a rather special circumstance, and are infiltrated with their very own lymphocytes, including T cells specialized for tumor-killing. Yet the very success of tumor-killing T cells can limit their efficacy within the microenvironment of a tumor.



Immune cells, in general, rely on environmental and nutritional cues to guide their functional development and specialization, but one subset of anti-tumor T cells (those [expressing transcription factor 7](#), or TCF7), has been found to retain greater stem-cell like capacity. Dying tumor cells release potassium and undergo other [significant metabolic changes](#), which alter signaling to exposed T-effector cells in such a way as to interfere with their nutrient uptake and change their epigenetic patterning, thereby inhibiting their tumor-clearing activities. This high-potassium microenvironment also shows an analogous effect on T-regulatory immune cells—though with a different result. In both cases, the T cells interpret the altered nutrient flow as a starvation signal that prevents further differentiation and causes them to revert to “stemness”—a more stem cell-like state. However, in the case of T-regulatory cells, which tend to moderate the more invasive steps in the early immune response, this effectively cancels immunosuppressive specialization, restoring broader immune potential to these cells.

So what is the overall outcome in a given tumor? Not yet fully known—though opportunities are undoubtedly enhanced by the understanding that something as simple as potassium can, in effect, [replicate caloric restriction](#), [induce autophagy](#), and increase stem cell-like potential in strategically located immune cells.

Classic FMU Interview: Walter Willett, MD Nourishment Front and Center in Four Dimensions

In the past, doctors and researchers felt that providing micronutrients beyond the level for preventing outright deficiency at the population level was unnecessary and possibly even wasteful (though there was little corresponding



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feeling about macronutrients). Now, we understand that each of us has unique nutrient needs that change constantly according to our life stage, physical activity, redox status, emotional stress, genetic background, and a lifetime of environmental and epigenetic contributions. Amidst what we do and how we think, what we ingest is an ongoing conversation with our metabolism—immune balance, rate of cellular aging, ability to deal with toxins, and how we respond to and resolve our living experiences. [In this classic FMU](#), Dr. Bland talks with eminent epidemiologist Walt Willett, MD about why nutrition and lifestyle need to be the focus of health, medical education, medicine, and the doctor-patient relationship.

Interview Link:

<http://jeffreybland.com/knowledgebase/may-2002-issue-walter-willett-md/>

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