

Interview

An Interview with Dr. Sok Cheon Pak

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Abstract

Interview with Dr. Sok Cheon Pak. Dr Pak as a physiologist currently leads and guides research into nutraceuticals to provide relevant and impactful clinical applications. The best example is the rice bran arabinoxylan compound (RBAC). RBAC is a functional food produced from hydrolysed rice bran denatured with shiitake mushroom enzymes. RBAC demonstrates strong immunomodulatory properties, particularly for enhancing the natural killer cell activity. Additionally, RBAC is a potent antiproliferative food supplement with strong evidence showing that it can arrest tumour proliferation. Dr Pak has recently published a book on RBAC.

Keywords

Nutraceuticals, cancer, RBAC, immunomodulatory, natural killer cell



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Dr. Sok Cheon Pak

Dr. Sok Cheon Pak has taught and researched at Charles Sturt University since 2007. He received a B.S. from Konkuk University, Korea in 1986, and a M.S. from the Utah State University in Logan, Utah. He received a Ph.D. in Physiology from the Clemson University, South Carolina in 1992. From 2002 to 2006, Dr. Pak worked at the New Zealand College of Oriental Medicine as the Dean. His expertise has been in the field of Complementary Medicine and has become recognised nationally and internationally through ongoing external research collaborations. His area of interest relates specifically to introducing evidence-based practice to Complementary Medicine research and practice. This has been based on laboratory experiments incorporating modern medical technologies to identify and evidence the underlying rationale for prescribing therapeutic substances for treatment.

1. What Is Your Main Research Area? How Did You First Become Interested in It? Is There a Particular Case Which Has Influenced You the Most?

Cancer is my main research area at the moment. A primary constituent in the rice bran layer is arabinoxylan, a non-starch polysaccharide. Arabinoxylan contains cross-links in the side chains making it resistant to extraction by water. Extraction methods using enzymes and alkali solutions have enabled the availability of low molecular weight arabinoxylans. A prime example is a modified arabinoxylan product treated with the *Lentinus edodes* mycelial enzyme known as rice bran arabinoxylan compound (RBAC). I and my PhD student started writing the first systematic review article on RBAC as a complementary therapy for conventional cancer treatment in 2018 [1]. Then again in 2021, we published a narrative review of RBAC on its health-promoting properties and clinical applications [2]. At present, I am conducting the pilot feasibility trial aiming to evaluate the effects of RBAC on cancer patients' quality of life during active treatment, compared to placebo, using a validated questionnaire. Other outcome measures include changes in inflammatory and nutritional status, cytokine profile and gut microbiota.

2. Which Topics Are Included? In Your Opinion, What Challenges and Developments Can We Expect to See in among These Topics?

My new book, *Modified Rice Bran Arabinoxylan: Therapeutic Applications in Cancer and Other Diseases*, [3] includes therapeutic properties ranging from natural killer cell activity to immunomodulatory, antioxidant, antiangiogenesis, antiproliferative and anti-inflammatory properties. It also contains therapeutic applications in cancer and other conditions such as aging, HIV and hepatitis.

3. Considering the Progress in Your Research Area, Could You Please Share Us Some Hot Topics or Cutting-edge Technologies in Your Research Field?

Due to the exponential interest in the potential effectiveness of RBAC as a dietary supplement for immune improvement and disease prevention, I have had to make the first edition of *Modified Rice Bran Arabinoxylan: Therapeutic Applications in Cancer and Other Diseases* [3]. This book contains 12 chapters. We have solicited manuscripts from leading RBAC experts in order to write this book. Using available primary literature, the authors have collated, interpreted, and synthesised the best and most relevant evidence for the interested public as well as well-trained clinicians.

4. As an Experienced Researcher in This Field, What Do You Consider to Be Key Aspects of Research That Apply to Clinical Practice?

Immune function is the key aspect of RBAC-related research. Nutraceuticals such as RBAC can positively affect and enhance the immune system, which is particularly pertinent in the current turbulent times of COVID-19. Not surprisingly, nutraceutical sales rose dramatically during the pandemic period. However, much research is still needed to understand how natural products interact with the immune system to clarify their chemical compositions, mechanisms of action and effects on health and illnesses.

5. Do You Also Offer Training and/or Further Education in Your Area?

As an academic staff, I will continue working on RBAC to unlock the unknown potentials of it to confer benefits to human health. I offer the training workshop on RBAC at least once a year.

6. How Do Patients Benefit from Your Research?

RBAC research has shown it to be useful as a complementary treatment for cancer and human immunodeficiency virus infection. It can positively modulate serum glucose, lipid and protein metabolism in diabetic patients. Additionally, RBAC has been shown to ameliorate irritable bowel syndrome and protect against liver injury caused by hepatitis or nonalcoholic fatty liver disease. It can potentially ease symptoms in chronic fatigue syndrome and prevent the common cold. RBAC is safe to consume and has no known side effects at the typical dosage of 2-3 g/day.

7. Let Us Know How You Balance Your Job with Privacy? What Are Your Secrets of Success for This?

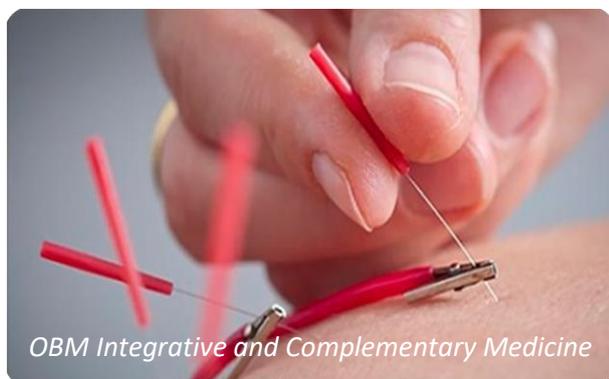
I balance my work with outdoor activities such as bushwalking and traveling.

8. What Are Your Future Plans?

I am interested in looking at the role of RBAC in the gut microbiome composition for colorectal cancer patients.

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