

16th March 2022 Time: 08:00 - 09:30*ET (Toronto/New York) ONLINE SESSION

IAFoST/IUFoST Scientific Roundtable Discussion (SRD)

THE ROLE OF FOOD SCIENCE IN UNDERSTANDING HOST DEFENSE FUNCTIONS AMONG HUMANS DURING THE SARS-COV-2 PANDEMIC

Coronavirus Disease 2019 (COVID-19) is pandemic and is caused by severe acute respiratory syndrome coronavirus 2 (SARS- CoV-2). The rising number of cases of this highly transmissible infection has prompted an urgent need to identify and develop effective antiviral interventions that may reduce the health risks associated with this disease. The life cycle of SARS-CoV-2 includes a viral entry, viral replication, viral assembly and release. The symptoms associated with viral infection often lead to fatal outcomes with pneumonia, myocarditis, acute respiratory distress syndrome, hypercoagulability, and/or multi-organ failure.

Recent studies have reported that plant-derived substances, such as quercetin, emodin, epigallocatechin gallate, and berberine may, albeit modestly, inhibit different stages of SARS-CoV-2 life cycle in the host. For example, these substances in some in vitro and in vivo model systems appear to disrupt viral infection and replication by blocking viral-surface spike protein binding to entry receptor angiotensin-converting enzyme (ACE2), inhibiting viral membrane fusion with host cells, inhibiting main proteinase (Mpro) and RNA-dependent RNA polymerase involved in viral replication, and/or pathological host- responses in vitro.

Various functional foods/nutraceuticals, even though not defined by the US government, and dietary supplements may modulate host defense function(s) and overall health status, and thus possibly lower the risk of COVID-19 infection. However, these data are inconsistent and need further clinical evaluation.

Some studies suggest that a balanced diet rich in various nutrients especially specific micronutrients may have a significant role in reducing risks associated with COVID-19 and during the recovery phase. Obesity, type 2 diabetes, and cardiovascular disease are among the non-communicable diseases associated with increased inflammation. A decrease in obesity, which is multifactorial in etiology, may reduce the risk of severe COVID-19 inflammatory responses. This response may be due to fewer ACE2 receptors (depending on tissue type), changes in their binding affinity or alterations in associated proteases and an array of genetic factors.

An increased awareness in food science and dietary components may represent important and critical roles in reducing the risk of SARS-CoV-2 viral infection, growth, and disease progression as well as provide a perspective on the potential use of these plant-derived substances in the development of novel interventions against SARS-CoV-2.

PROGRAMME

IAFoST Co-Chairs and Discussion Leaders: Dr. Aman Wirakartakusumah (Academy President) and Dr. Charles Aworh (Academy President-Elect) Dr. Roger Clemens (IAFoST Past President)



1. 08:05~08:25

Narain Naidu (President/CEO Nterminus, Yorba Linda, CA 92887): Understanding the complexities of COVID-19 pathogenesis and the role of dietary components in reducing associated pathologies



2. 08:25~08:40

Chin-Kun Wang (Chung Shan Medical University, Taiwan): Impact of dietary nutrients (functional foods/nutraceuticals) and micronutrients on COVID-19 pathologies



3. 08:40~08:55

Fereidoon Shahidi (Memorial University of Newfoundland, Canada): Role of phenolics on immune for reducing risks associated with COVID-19 inflammation



4. 08.55~09:10

Kenji Sato (University of Kyoto, Japan): Role of food protein and hydrolyzed peptides on the modulation of immune functions among humans



5. 09:10~09:30 Discussion and Summary Roger Clemens (IAFoST Past President): Roundtable summary and presentation of action items for the scientific/medical community

To register for this event

CLICK HERE or contact IUFoST General Secretariat secretariat@iufost.org