

Department of Biochemistry

2020-21

e-poster presentation competition on Impact of COVID-19 infection on human immune system and physiology 9th July, 2020

The department of Biochemistry organized an online e-poster presentation competition on 9-7-2020. The programme was organized on Zoom platform from 12.30 pm onwards. There was submission of posters from 36 candidates all over India that included Undergraduate, Postgraduate students and research scholars. Among them, 15 were shortlisted for online presentation based on the content and preparation of the slide. The e- posters were judged by eminent doctors, Dr.Devender Singh Negi, Prof & HOD of Physiology, Mediciti Hospitals, Ghanpur, Telangana state and Dr.S.Srinivas, Head, critical care, Virinchi Hospitals, Hyderabad. The selected 10 posters were given the order of merit and were given e-certificates. The participants were applauded by the judges for their good efforts in understanding the biochemical processes underlying COVID-19 infection and how it impacts the human immunity and physiology of the body. The feedback has shown that 100% participants have felt that this kind of competition will motivate and help them to learn the subject.





Zoom Meeting

Participants (3)

- Ananya Srinivasan
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- Ananya Srinivasan

Does NK cells get exhausted during SARS-CoV-2 infection?

T. Nishant

University of Hyderabad

Introduction: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is responsible for the coronavirus disease 2019 (COVID-19). This disease was declared as pandemic on March 11, 2020 by WHO. The acute respiratory rate in early line of infection is response to viral infection. One of the important role is to control killer CD8+ cells. They play a major role in defense against these cells and differentiated cells.

NK cells: They are able to kill "self" cells by releasing cytotoxic granules of "missed" proteins. These functions are usually regulated by receptors. They have two types of receptors: activating and inhibitory. The KIR2DL1 antibodies bind to the activating receptors but in cancer cells they moderate the cytotoxic effect. In some cases, activating receptors in cancer cells.

Exhaustion cell activation roles in the context of infection of cancer cells due to chronic infection in nature. The reasons for NK cell exhaustion can be:

- Dysregulation of activating receptors.
- Dysregulation of inhibitory receptors.
- Exhaustion of inhibitory receptors.
- Mismatched in the ligand receptors.
- Suppressive immune cells.
- Inhibitory receptors.

Conclusions:

- Ding et al., Functional relevance of inhibitory receptors in COVID-19 patients, *Cell Discov.* 2020, 6: 179-191
- Zhang et al., The E. NK cell response: Progress in Immunology 2015, 15: 78

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Zoom Meeting

Participants (4/0)

Dr. A. Sai Padma

Topic: Impact of Covid-19 Infection on Human Immune System and phagocytosis
 Organized by the Department of Biochemistry and Biotechnology, Anna University, Chennai-600 025.

Abstract
 COVID-19 is a novel coronavirus that causes respiratory illness in humans. It is a zoonotic disease that is caused by the SARS-CoV-2 virus. The virus enters the human body through the respiratory tract and spreads to other parts of the body. The immune system of the human body is activated to fight against the virus. The immune system consists of various cells and molecules that work together to eliminate the virus. The phagocytosis process is one of the key mechanisms of the immune system. It involves the engulfment of the virus by phagocytic cells such as macrophages and neutrophils. The engulfed virus is then broken down into smaller fragments, which are then presented to T cells. This process helps the immune system to recognize and eliminate the virus. However, the immune response to COVID-19 is often weak and short-lived, which allows the virus to spread and cause illness. Understanding the impact of COVID-19 on the human immune system and phagocytosis is crucial for developing effective treatments and vaccines.

Keywords: COVID-19, SARS-CoV-2, Immune System, Phagocytosis, Human Immune System.

10:59 PM (10/1/2020)

Zoom Meeting

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11:01 PM (10/1/2020)

Online Quiz on
“Immunization and Vaccines”

26th-27thMay, 2020

Immunization is a global health and development success story, saving millions of lives every year. Vaccines reduce risks of getting a disease by working with our body’s natural defenses to build protection. We now have vaccines to prevent more than 20 life-threatening diseases, helping people of all ages live longer, healthier lives. Immunization currently prevents 2-3 million deaths every year from diseases like diphtheria, tetanus, pertussis, influenza and measles. Immunization is a key component of primary health care and an indisputable human right. Vaccines are also critical to the prevention and control of infectious-disease outbreaks.

Immunization is a shared responsibility where families, health workers, and public health officials must work together to help protect the entire community. In order to create awareness on the significance of immunization and types of vaccines against a variety of diseases that can affect all of us and our families.

To bring awareness on the importance of immunization and vaccines among the student community, the department of Biochemistry has organized an online Quiz on “Immunization and Vaccines”. Questions based on immunization and vaccines were created using Google form and circulated amongst the student and faculty communities of various institutions. The forms were made available for 24 hours to respond in large numbers. There were 229 responses with nearly 60% of the participants scoring more than 70%. e-certificates were issued to the deserving participants as a token of appreciation.

Link for the quiz:

https://docs.google.com/forms/d/1oJFq0WTEZ4VIC-7hk1Ghw-0LAABYCr8V_5x_-338kPg/edit

Protective measures during COVID-19 pandemic

Medical & Health Committee and Department of Biochemistry

The Department of Biochemistry has provided all the required support to the Medical & Health committee, BVC in maintaining a safe environment during COVID-19 pandemic in the campus. The department has taken care of arranging 1% hypochlorite continuously to use as disinfectant for sanitizing the whole campus and also arranged 5% dettol for cleaning the surfaces at the workplace and for door knobs, handles and metal benches. Isopropanol based hand sanitizer was prepared by staff members as per WHO guidelines and kept available for all the faculty in the campus and during exams for students also.

The department has stood up to the situation and has seen that campus is maintained with adequate sanitizing facilities.





2016-17

**Two Day Model Presentation
9th and 10th of September 2016**

The department of Biochemistry has conducted an event on display of various science models on 9th and 10th of September, 2016. This kind of exhibition will enhance the scientific temper amongst the students and provide an in-depth understanding of the concepts of biological processes. The models which were exhibited are related to different cellular mechanisms of living organisms. Students of B.Sc (M.Bi.C) 3rd year have taken part in this programme and displayed models on cardiac cycle, alpha helical structure of protein, membrane fluid mosaic model, organization of eukaryotic genome, DNA replication, transcriptional elongation, signal transduction of insulin, erythroblastosis foetalis, biogas production and structure of plant cell. The exhibits displayed by the students were very educative and highly appreciative. Students and faculty of other streams have visited the models with great enthusiasm and tried to understand the mechanisms involved. Principal Prof.Y.Ashok had visited the models and appreciated the students for their active participation.

