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## Advancements in Translational Biomedical Research

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### Editorial Note

The aim of Translational biomedicine is to promote basic scientific research for the well-being of humankind. The scientific discipline of Translational medicine encourages the research towards therapeutic interventions which not only brings forward the possible therapeutics but also highlights the research gaps in research specific area. The Issue 3 Volume 11 of Translational Biomedicine showcases a wide range of studies such as the usage of plant phytoderivatives as fusion inhibitors targeting the spike proteins in order to inhibit the entry of COVID-19, role of stem cells in Chronic myeloid leukaemia, the effect of Avastin for the treatment of Neovascular Age related Macular Degeneration.

Corona viruses are round shaped or idiomatic, with a diameter of 80-120 nm. A human beta corona virus that has the potential source of severe widespread respiratory and asymptomatic multiple pathophysiological conditions which led to an outburst of global pandemic. Nadeem MK [1] in his in-silico study analysed two plant bioactive compounds ALS-1 and ALS-2 for its inhibitory role on the fusion peptide region or S2 HR-1 domain and consequently blocking the virus entry by applying molecular simulation, docking studies. The results however clearly finalised that ALS-1 has highest binding affinity with the spike glycoprotein which concludes that plant derivatives may have the potential to play a big role as 2019 n-CoV fusion peptide inhibitor.

Chronic Myeloid Leukaemia (CML) is a disorder of the haematopoietic system characterised by the malignant clonal growth of bone marrow cells, specifically haematopoietic stem cells (HSCs), which are capable of giving rise to all lineages of blood cells. In the current review, Francis J [2] discusses and reviews the role of stem cells and cancer stem cells in Chronic myeloid leukaemia. The current treatment of choice is tyrosine kinase inhibitors; classic drug used is Imatinib. However, it was challenged that withdrawal from Imatinib relapsed the patients and even they became immune to the tyrosine kinase inhibitors. The effectiveness of Imatinib is shown to be increased when it is used in combination with other treatments which eventually became the potential targets for the CML treatment such as;

histone deacetylase inhibitors, autophagy inhibitors, sirtuin 1 inhibitors, and hypoxia-inducible factors.

Age – related macular degeneration (AMD) is the most common cause of vision loss in people over 60 years old. It is known that antioxidants and compounds of carotenoid family may have a protective role against AMD, therefore the role of factors such as diet and lifestyle associated with this disease should also be considered. Asadollah A and Shahverdi E [3] in their article studied the relationship between Intravitreal injection of Avastin and AMD. 76 patients were selected, visual acuity was evaluated. Accordingly, logarithm of MAR was taken, Avastin of 1.25 mg in 0.05 ml of liquid was administered, and second and third injections were accordingly given after the dosage of first injection after one month. The results positively concluded intravitreal Avastin of dosage 1.25 mg was well tolerated and can be associated with the improvement in VA.

### References

- 1 Nadeem MK (2020) In-silico Study to elucidate corona Virus by plant phytoderivatives that hits as a fusion inhibitor targeting HR1 domain in spike protein which conformational Changes efficiently inhibit entry COVID-19. *Transl Biomed* 11: 1- 7.
- 2 Francis J (2020) Unravelling the role of stem cells in chronic myeloid leukaemia and potential treatments. *Transl Biomed* 11: 1- 8.
- 3 Asadollah A, Shahverdi E (2020) The effect of intravitreal injection of Avastin for neovascular age related macular degeneration. *Transl Biomed* 11: 1- 5.

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