OPEN ACCESS Freely available online

Immunogenetics: Open Access

Editorial

Compounds Identified in Autoimmune Disorders, Especially in COVID-19

Rajesh Utpal*

Molecular Biology Unit, Pasteur Institute of Iran, Pasteur Ave, Iran

EDITORIAL NOTE

At the point when the body detects a pathogen, like bacteria or viruses, it mounts an immune system response to fight this invader. In some people, the immune system overreacts, leading to an overactive immune response that causes the body to injure itself, which could prove fatal in some cases. Presently, scientists from Nanyang Technological University, Singapore (NTU Singapore) have created a compound that could assist with diminishing this over activation without debilitating the body's whole immune response.

An overactive system results in numerous autoimmune disorders when the system mistakenly attacks healthy tissues like atrophic arthritis and sort 1diabetes. More as of late, it has also been connected to severe COVID-19 infections, in which immune-system signaling proteins increase to dangerous levels, prompting harm to the body's own cells. Through lab experiments using human cells grown in a dish, the researchers found that Anti-Sense Oligonucleotide (ASO-1) intensely diminished Tyrosine Kinase 2 (TYK2) levels over a sustained period and inhibited immune signalling pathways that are related to autoimmune disorders. These points to the potential of the ASO-1 compound forming the thought for treatment of autoimmune conditions.

Human genetic studies have suggested that deactivating TYK2 could give security against a good scope of autoimmune conditions like atrophic arthritis, psoriasis, lupus, and sort 1diabetes. With the UK- led study of critically ill COVID-19 patients connecting high TYK2 expression to severe COVID-19, ASO-1 could be a remedial specialist worth investigating further. We are intending to conduct further pre-clinical work to validate its therapeutic potential. Focusing on genetic material those results in TYK2 production. Various drugs that reduce inflammation resulting from an overactive immune reaction specialize in the Janus kinase (JAK) group of 4 proteins: JAK1, JAK2, JAK3 and TYK2.

Recently, TYK2 has emerged as researchers' preferred target. As the structures of the four members are exceptionally similar, selectively target TYK2 to restrict undesirable side effects. The ASO-1 compound designed by the NTU research group is an Anti-Sense Oligonucleotide (ASO). ASOs are a sort of RNA therapeutics they aim the messenger RNA (mRNA), which carries genetic instructions that cells 'read' to form proteins. ASO-1 is designed to tie to TYK2 mRNA, thus preventing cells from creating TYK2 protein.

The researchers conducted lab experiments on human cell cultures and viewed ASO-1 to be profoundly strong and selective for TYK2, with no impact against the other JAK proteins. We noticed that this high intensity of ASO-1 rivals that of late ASO drug candidates that have progressed to clinical trials or have been approved for clinical use. The NTU team discovered ASO-1 from quite 200 potentially effective ASOs, which were designed, supported their in-house expertise on nucleic acids. The team has established an incorporated platform spanning the design, synthesis, and cell testing of RNA therapeutics. TYK2 stands among a variety of therapeutic targets for immunology and cancer therapy, which is that the primary focuses of the group. The NTU researchers intend to accomplice several scholarly collaborators to test ASO-1 in creature models and are available to industrial collaboration on the improvement of the ASO-1 compound towards clinical use.

Correspondence to: Dr. Rajesh Utpal, Molecular Biology Unit, Pasteur Institute of Iran, Pasteur Ave, Iran, E-mail: Rajeshutpal@yahoo.com

Received: September 09, 2021; **Accepted**: September 23, 2021; **Published**: September 30, 2021

Citation: Utpal R (2021) Compounds Identified in Autoimmune Disorders, Especially in COVID-19. Immunogenet Open Access. 6:e112.