

## Small Molecule Inhibitors for HIV Therapy

- **TECHNOLOGY:** Human Immunodeficiency Virus (HIV) infection leads to a compromised immune system due to impaired T-cell function, leading to higher risk of secondary infection related mortality. T-cell receptors displaying viral antigens are severely downregulated in HIV infection, thus leading to impaired immune surveillance. Currently available frontline drugs are focused on controlling the levels of the HIV virus itself by targeting viral integration, replication and inhibition of viral proteins. This technology brings a new class of molecules which target a novel host-pathogen interaction site at the level of T-cell receptors. In cell based viral infection assays the lead compounds have shown significant restoration of T-cell activation.
- **DOMAIN:** Disease Intervention
- **APPLICATIONS:** The current technology is applicable in the manufacture of medicaments for treatment, prevention or suppression of diseases, and conditions mediated by HIV. This approach provides a complementary route to ongoing targeted anti-viral therapy via strengthening of immune system
- **ADVANTAGES:** The technology enables a method of treatment of HIV infection with a unique mechanism of action: prevention of immune evasion of infected cells. Existing therapies do not adopt the viral strategy of immune evasion. Also, targeting host-virus interface is less amenable to drug resistance than pure viral targets. Hence, the current technology would provide hope to class of people where existing retroviral treatments have failed. Further, there may be a positive impact as a pre-exposure prophylaxis to a hot-spot population.
- **IP STATUS:** PCT/IN2019/050594 filed on Aug 13, 2019 and nationalized in EP, USA and Japan

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