Collaborations

Collaboration is the foundation of our culture. In their pursuit of new medicines our scientists work in interdisciplinary teams, with colleagues across Novartis and with external collaborators from academia and biotech.

Accordion:
Juvenile Diabetes Research Foundation Collaboration

Diabetes mellitus is a major health concern for millions of people globally, with prevalence only expected to increase. All forms of diabetes, including types 1 and 2 and gestational diabetes, produce a decrease in pancreatic beta cell mass, the cells responsible for insulin production and secretion. Together with the Juvenile Diabetes Research Foundation (JDRF), a research organization committed to the cure of type 1 diabetes, GNF scientists are taking two approaches to increase functional pancreatic beta cell mass therapeutically.

Our scientists are developing small molecules that are able to induce proliferation of beta cells, both in cell culture and in models of diabetes. We have shown that the most promising compounds act by inhibiting the kinase, Dyrk1a. While we are working to restore beta cell numbers by inducing their proliferation, we are also developing approaches to prevent their loss. In our ‘beta cell survival’ program, we have found small molecules that will protect beta cells from dying in culture when subject to a variety of insults typically thought to contribute to beta cell death in type 1 and type 2 diabetes.

Wellcome Trust Collaboration

Leishmaniasis is a widespread parasitic disease with frequent epidemics in the Indian subcontinent, Africa, and Latin America. The disease is responsible for about forty thousand (40K) deaths each year, and substantial morbidity. In its most severe form, visceral leishmaniasis (or kala azar), the disease is characterized by parasitic invasion of internal organs, and is almost always fatal if left untreated. Several drugs are available, but they suffer from multiple shortcomings such as toxicity, failure of treatment due to parasite resistance, and length and cost of treatment.

Our scientists have previously identified a novel drug target for treatment of visceral leishmaniasis, the parasite proteasome. Small molecules that selectively inhibit this parasite enzyme have shown promise to cure not only leishmaniasis, but also other kinetoplastid infections - Chagas disease and sleeping sickness. The aim of the collaboration is to discover selective inhibitors of Leishmania proteasome by high throughput screening, and to optimize identified scaffolds toward orally available small molecules with efficacy in mouse model of visceral leishmaniasis. Such compounds will be further characterized in preclinical toxicity models to assess their potential for clinical testing.

Accordion Type:
Collapsible

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