

IDO Inhibitors

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Executive Summary

Immuno-oncology is an increasingly attractive area in which to develop new drugs for cancer. A target of note is Indole-2,3-dioxygenase (IDO), which has a number of compounds in clinical development. The team at UHN's Toronto Western Hospital has discovered new chemical matter with nanomolar potency against IDO. These chemotypes have high selectivity for IDO over other members of the family and also have brain penetrance, making them useful in brain cancer.

Team

An experienced team of drug designers with industrial experience is led by Dr. Donald Weaver, an MD/PhD neurologist and medicinal chemist who was a co-inventor on two Phase 3 clinical programs. His team in the Krembil Discovery Tower includes synthetic organic chemists; biologists with in vitro, cell, and animal model expertise; a computational chemist / patent agent; and an analytical chemist with experience running ADMET/PK experiments.

Clinical Need

Glioblastoma multiforme (GBM), the most common type of glioma, is the most common brain tumor. It is an aggressive cancer with very poor prognosis (50% survival through 1 year, <10% through 3 yrs). The current standard of care for GBM relies on resection of the tumor as the first line of treatment, followed by administration of alkylating agents such as Temozolomide in combination with chemoradiotherapy. However, this treatment regimen has limited efficacy and severe side effects that often limit the dosing and the duration of the treatment. As such, new drugs are urgently needed.

Product

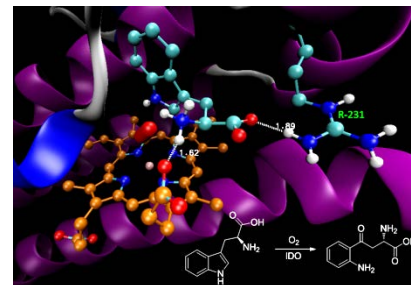
A small molecule (new molecular entity) for brain cancer and metastases of brain is the primary product. It is also possible to consider systemic (non-CNS) IDO inhibitor partnerships with companies with immuno-oncology assets (i.e., PD-1, PDL-1).

Competition

Several IDO inhibitors are in the clinic for cancer indications, notably epacadostat, NLG919, and N-methyl-D-tryptophan (1-MT). Of these only 1-MT has any significant brain penetrance, due to active transport. Our target product profile is for an immuno-oncology small molecule drug for GBM that is orally available, engages a target with existing preclinical validation in solid tumors, designed for brain penetrance and highly selective for its target as against a key family member. These two differentiators will take advantage of the already well understood PK/PD around IDO but would allow such a drug to occupy a unique niche in the immuno-oncology clinical pipeline.

Intellectual Property

Compounds are currently being protected as a trade secret until candidate selection, to preserve patent term (provisional patent in preparation). Patentability assessment has been performed on current leads.



Company Profile:

Industry: Therapeutics

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Financial Information:

Seeking seed capital: \$2-\$10M (candidate selection through Phase 1)

Management:

We have a technical team in place with start-up experience. Seeking a dedicated experienced executive entrepreneur to advance the commercialization of this technology.

Scientific Founder:

Dr. Donald Weaver

Partners:

University Health Network