IDO1 Inhibitor

PF-06840003 is an investigational, small molecule inhibitor of indoleamine 2,3-dioxygenase 1 (IDO1), an immunosuppressive enzyme that is overexpressed in a wide range of cancers.

MECHANISM OF ACTION

IDO1 may induce immunosuppression through degradation of the amino acid tryptophan, an important regulator of innate and adaptive immunity, and is also believed to cause resistance to cancer-fighting immune checkpoint inhibitor agents. The inhibition of IDO1 may help restore immune surveillance of tumors, potentially leading to the elimination of IDO1-expressing tumor cells. PF-06840003 is thought to work by targeting and binding to IDO1, increasing and restoring the proliferation and activation of various immune cells and reducing tumor-associated regulatory T cells (Tregs) that inhibit an immune response.

THE POTENTIAL OF IDO1 INHIBITION

- PF-06840003 has demonstrated anti-tumor activity in multiple preclinical tumor models when administered in combination with immune checkpoint inhibitors.[1]
- PF-06840003 was exclusively licensed from iTeos to Pfizer in December 2014 when the companies entered into a license and collaboration agreement to develop therapeutics targeting the tumor immune environment.

CLINICAL STUDIES

Pfizer is exploring the potential of PF-06840003 to determine:

- Maximum tolerated dose
- Safety and efficacy profile
- Therapeutic potential

ONGOING STUDIES

- Data is currently being evaluated from a Phase 1 first-in-patient dose escalation study evaluating the safety and tolerability of PF-06840003 in patients with brain cancer (malignant gliomas) (NCT02764151).[2]

REFERENCES

1. Tumang J, Gomes B, Wythes M, et al. PF-06840003: A highly selective IDO-1 inhibitor that shows good in vivo efficacy in combination with immune checkpoint inhibitors. Abstract 4863. http://cancerres.aacrjournals.org/content/76/14_Supplement/4863. Accessed February 28, 2017.
2. First in Patient Study for PF-06840003 in Malignant Gliomas. https://clinicaltrials.gov/ct2/show/NCT02764151?term= PF-06840003&rank=1. Accessed February 28, 2017.