Max-Planck-Innovation

Technology Offer

Novel PDE6δ inhibitors for the treatment of K-Ras mutant pancreatic cancer

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Background

Pancreatic cancer continues to pose significant challenges in the field of oncology, with **dismal survival rates** and **limited treatment options**. Patients diagnosed with this aggressive malignancy often face an uphill battle, with a five-year relative **survival rate of just 11%**.

Ras proteins are well-known as pivotal regulators of cell growth, proliferation, and differentiation, with their dysfunction implicated in various cancers (Brunsveld et al., 2006; Gelb et al., 2006). Among the Ras isoforms, **K-Ras** is the most commonly mutated, occurring in over **90% of pancreatic cancers** (Cox et al., 2014) and representing an **ideal target** for the treatment of this type of cancer.

However, despite substantial research efforts, **finding clinically useful drugs to target oncogenic Ras proteins has remained elusive**, and treatment options for patients with pancreatic cancer remain limited.

Technology

Researchers at the Max Planck Institute for Molecular Physiology have developed a novel class of inhibitors targeting PDE6δ, an enzyme critical for maintaining the dynamic distribution of K-Ras within cells.

These inhibitors are characterized by a benzene disulfonamide structure, which enables them to achieve powerful inhibition of the binding between PDE6δ and Ras. They present high affinity for PDE6δ, with a K_D in the low nanomolar range.

Furthermore, *in vitro* experiments have provided compelling evidence of their efficacy, as these inhibitors **significantly reduced proliferation** of several pancreatic cancer cell lines.

Patent Information

International Patent Application No. PCT/EP2018/050699, filed on July 19, 2018.

Opportunity

We are open to **research partnerships** and **license agreements** to accelerate the integration of our PDE6δ inhibitors into the clinical practice.

Contact

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