Inhibitors Of P90 Rsk

Tech ID: 34489 / UC Case 2009-119-0

TECHNOLOGY DESCRIPTION

UNMET NEED: This invention addresses the lack of potent and selective reversible inhibitors for RSK proteins, which play a critical role in disease progression.

TECHNOLOGY: The invention introduces a new class of reversible covalent inhibitors targeting the p90 ribosomal S6 kinases (RSK1 and RSK2), a family of proteins implicated in cancer, immune/inflammation disorders, and heart disease. The lead compound demonstrates stability, cellular activity, and therapeutic potential, overcoming challenges faced by earlier-generation inhibitors.

DEVELOPMENT STAGE: The development is at the pre-clinical proof-of-concept stage, with promising pharmacokinetic data and upcoming efficacy studies.

COMPETITIVE ADVANTAGE:

- **Reversible Covalent Inhibition:** First rational design of reversible covalent inhibitors targeting RSK, enabling safer therapeutic profiles for chronic diseases.
- **Chemical Innovation:** Utilizes a unique combination of electron-withdrawing groups to achieve reversible binding to cysteine residues, a groundbreaking approach in inhibitor development.
- **High Potency and Selectivity:** Exhibits picomolar binding affinity and specificity for RSK1/RSK2, outperforming existing inhibitors in terms of efficacy and selectivity.

This innovative approach holds significant promise for advancing treatments in oncology, cardiology, and immunology.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,505,766	11/29/2016	2009-119

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OTHER INFORMATION

KEYWORDS

RSK inhibitors, FGFR, Reversible covalent inhibitors, therapeutics

CATEGORIZED AS

- Biotechnology
  - Health
  - Medical
    - Disease: Autoimmune and Inflammation
    - Disease: Cancer
    - Disease: Cardiovascular and Circulatory System
    - New Chemical Entities, Drug Leads

RELATED CASES

2009-119-0

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