

INHIBITORS OF 6-HYDROXYMETHYL-7,8-DIHYDROPTERIN PYROPHOSPHOKINASE (HPPK) AS NOVEL ANTIBIOTICS

SUMMARY

The National Cancer Institute, Bimolecular Structure Section, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize the inhibitors of HPPK as novel antibiotics.

REFERENCE NUMBER

E-170-2010

PRODUCT TYPE

- Therapeutics

KEYWORDS

- Antibiotic
- Antimicrobial

COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

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DESCRIPTION OF TECHNOLOGY

The National Cancer Institute, [Bimolecular Structure Section](#), is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize the inhibitors of HPPK as novel antibiotics.

NCI researchers have identified novel inhibitors of 6-hydroxymethyl-7,8-dihydropterin pyrophosphokinase (HPPK), a key enzyme in the folate biosynthetic pathway which is essential for microorganisms but absent in mammals. These inhibitors are based on linked purine pterin compounds. They can disrupt the folate biosynthesis of bacteria and thus can find utility as potential antimicrobials. Antibiotics based on these lead molecules can be specifically designed and synthesized to serve as broad-spectrum or narrow-spectrum antibiotics. None of the current antibiotics target HPPK.

COMPETITIVE ADVANTAGES

NCI Technology Transfer Center

<https://techtransfer.cancer.gov/pdf/e-170-2010.pdf>

- Potential as broad-spectrum or narrow-spectrum antibiotics.
- Disrupts biological pathway that has not been targeted by existing antibiotics, and thus circumvent issues related to drug resistance.

INVENTOR(S)

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DEVELOPMENT STAGE

- Discovery (Lead Identification)

PUBLICATIONS

Blaszczyk J, Shi G, Li Y, Yan H, Ji X. Structure 2004 Mar;12(3):467-475. [[PubMed: 15016362](#)]

PATENT STATUS

- **U.S. Filed:** US Application No.: 14/689449 (17 April 2015)

THERAPEUTIC AREA

- Infectious Diseases