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Non-transpeptidase binding aryl-thioether β-lactams active against *Mycobacterium tuberculosis*

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We have designed, synthesized and tested a novel class of non-transpeptidase, β-lactamase resistant monocyclic β-lactams that carry an aryl-thio group at C4. These thio-ethers exhibit inhibitory and cidal activity against serine β-lactamase producing *Mycobacterium tuberculosis* wild type strain (Mtb). Some of the compounds have demonstrated minimal inhibitory concentration (MIC) as low as 6.25 μg/ml in 7H9 and 1.5 μg/ml in GAST. Our investigations indicate that these compounds are cidal to both replicating and non-replicating persistent Mtb. These compounds have also shown activity against multi-drug resistant strains of *M. tuberculosis*. Therefore, they are promising candidates for lead discovery. Mechanism of action and target identification studies which are currently underway.

Biography

Monika I Konaklieva has completed her PhD in Chemistry from SUNY Buffalo in the year 1997. She was a Visiting Professor in Medicinal Chemistry at Midwestern University, Chicago, Illinois. She is currently an Associate Professor at American University. She has published more than 40 papers in reputed journals and has been serving as an Editorial Board Member of several Chemistry journals publishing in the areas of Organic and Medicinal Chemistry.

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