

## Up-scaling and commercialization of 24-desmethyl rifampicin effective against major first line drug (rifampicin) resistant strains of *Mycobacterium tuberculosis*

### APPLICATION

The novel analogue (24 desmethyl rifamycin) is 50 times more effective than the existing drug in the market and can be further modified chemically to generate more analogues that can be used as a first line of defense against various MDR strains of *Mycobacterium*

COMPANY NAME	TECHNOLOGY READINESS LEVEL (TRL)	INTELLECTUAL PROPERTY
PhiXGen Pvt Ltd	TRL: 4 (The PoC is established and initial efficacy and safety has been demonstrated)	Antibacterial compounds against drug resistant bacteria Patent No: PCT/IB2014/059989 Russian Patent No: 2015144539
FOUNDERS' NAME		
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### PROBLEM ADDRESSED

Rifamycin was widely used and helped conquer the issue of drug-resistant tuberculosis in 1960s. But with time *Mycobacterium* strains acquired resistance. So, there is global search for new antibiotics to combat the developing resistance in the pathogens causing tuberculosis, leprosy etc.

### ABOUT THE TECHNOLOGY

To counter the problem of antimicrobial resistance rifamycin against *Mycobacterium tuberculosis*, Phixgen has developed an analogue of rifamycin (24-desmethyl rifamycin) using the combinatorial biosynthesis approach in the producer strain of *Amycolatopsis mediterranei*. The main aim of this proposal comprises of large-scale production of 24-desmethyl-rifamycin so that they can act as a replacement of rifamycin in infections caused by rifampicin resistant RR and multi-drug resistant MDR strain.

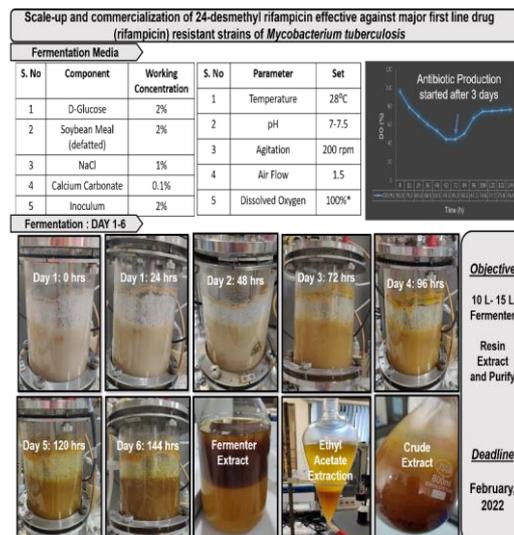
### FUNDS RAISED/ACHIEVEMENTS

- Raised INR 49.05 lakhs grant-in-aid from BIRAC BIG scheme

### END USERS/CUSTOMERS

- Pharmaceutical industries, manufacturers and companies

### PRODUCT IMAGE



### USP

- The produced analogue is 50 times more effective against the MDR strains of *M tuberculosis*.

<i>M. tuberculosis</i> strain		Rifampicin (HiMedia) µg/ml	24-desmethyl-Rifampicin S µg/ml	24-desmethyl-Rifampicin µg/ml
OSDD 55 (H526T)	Resistant	>50	0.1	<0.01
OSDD 206 (S531L)		>50	0.05	0.05
OSDD 321 (S531L)		>50	0.1	0.05
OSDD 209*	Sensitive	0.1	<0.01	<0.01
H37Rv*		0.05	<0.01	0.05