



Discovery

Early Development

Late Development

LEAD IDENTIFICATION	LEAD OPTIMIZATION	PRECLINICAL DEVELOPMENT	PHASE 1	PHASE 2A	PHASE 2B	PHASE 3
ATP Synthesis Inhibitors <i>Calibr</i>	Mycobacterial Gyrase Inhibitors <i>GSK</i>	TBA-354		NC-003	NC-002	REMox-TB
Energy Metabolism Inhibitors <i>AZ/University of Penn</i>	Pyrazinamide Analogs <i>Yonsei University</i>	Preclinical TB Regimen Development		Bedaquiline/ Clofazimine/ Pyrazinamide	PA-824/ Moxifloxacin/ Pyrazinamide (PaMZ)	Moxifloxacin/ Rifampin/ Pyrazinamide/ Ethambutol <i>Bayer, MRC, UCL</i>
Whole-Cell Hit-to-Lead Program <i>AZ</i>	Diarylquinolines <i>Janssen/University of Auckland/UIC</i>			PA-824/ Bedaquiline/ Clofazimine/ Pyrazinamide		
Whole-Cell Hit-to-Lead Program <i>Sanofi</i>	Riminophenazines <i>IMM/ BTTRI</i>			PA-824/ Bedaquiline/ Clofazimine		Moxifloxacin/ Isoniazid/ Rifampin/ Pyrazinamide <i>Bayer, MRC, UCL</i>
Whole-Cell Hit-to-Lead Program <i>NITD</i>	DprE Inhibitors <i>Calibr</i>			PA-824/ Bedaquiline/ Pyrazinamide		
Whole-Cell Hit-to-Lead Program <i>GSK</i>	Cyclopeptides <i>Sanofi</i>					
RNA Polymerase Inhibitors <i>Rutgers University</i>	Macrolides <i>Sanofi</i>					
	Novel Structural Series <i>NITD</i>					

TB Alliance R&D Partners:

AstraZeneca (AZ)
 Bayer Healthcare AG (Bayer)
 Beijing Tuberculosis and Thoracic Tumor Research Institute
 Calibr
 GlaxoSmithKline (GSK)
 Institute of Materia Medica (IMM)
 Janssen (Johnson & Johnson)
 Johns Hopkins University (JHU)
 Medical Research Council (MRC)
 Novartis Institute for Tropical Diseases (NITD)

New York Medical College
 Rutgers University
 Sanofi
 Stellenbosch University
 University College London (UCL)
 University of Auckland
 University of Illinois at Chicago (UIC)
 University of Pennsylvania School of Medicine
 Yonsei University