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Supplementary information

The AMR Accelerator: from individual organizations to efficient antibiotic development partnerships

In the format provided by the authors and unedited

Supplementary Table 1 | Overview of the AMR Accelerator projects

Project	Duration	Partner organisations	Budget	Topic	Project coordinator	Project leader	Website
AB-Direct	**51 months** Jul 2019-Sep 2023	**7**	**€ 3 789 718** EU funding: € 3 429 217 EFPIA contribution: € 360 500 Other: € 1	**Antibiotic tissue distribution**	**Institut National De La Sante Et De La Recherche Medicale**	**GSK**	https://amr-accelerator.eu/project/ab-direct
COMBINE	**72 months** Nov 2019-Oct 2025	**11**	**€ 25 460 100** EU funding: € 8 000 000 EFPIA contribution: € 17 460 100	**Coordination and support across the AMR Accelerator, and research to strengthen the scientific basis in the AMR field**	**Uppsala University**	**GSK**	https://amr-accelerator.eu/project/combine
ERA4TB	**72 months** Jan 2020-Dec 2025	**32**	**€ 207 963 891** EU funding: € 89 815 600 EFPIA contribution: € 55 837 633 Associated Partners: € 62 310 658	**Development of anti-TB drug combinations**	**Universidad Carlos III de Madrid**	**GSK**	https://era4tb.org
GNA NOW	**78 months** Jul 2019-Dec 2025	**12**	**€ 21 629 466** EU funding: € 12 299 995 EFPIA contribution: € 9 329 471	**New antibiotics to treat Gram-negative infections**	**Lygature**	**GSK (2019-2023 Evotec)**	https://amr-accelerator.eu/project/gna-now
PrIMAVeRa	**60 months** Nov 2021-Oct 2026	**18**	**€ 9 250 000** EU funding: € 6 500 000 EFPIA contribution: € 2 750 000	**Predicting the impact of mAbs and vaccines on AMR**	**European Vaccine Initiative**	**GSK**	https://www.primavera-amr.eu
RespiriTB	**72 months** May 2019-Apr 2025	**9**	**€ 9 962 900** EU funding: € 6 840 000 EFPIA contribution: € 3 122 900	**New assets for multidrug resistant TB**	**Leiden University Medical Center**	**Janssen**	https://respiritbntm.eu
RespiriNTM	**72 months** May 2019-Apr 2025	**9**	**€ 8 060 641** EU funding: € 5 687 984 EFPIA contribution: € 2 357 657 Other: € 15 000	**Novel assets for non-tuberculous mycobacteria**	**Leiden University Medical Center**	**Janssen**	https://respiritbntm.eu
TRIC-TB	**58 months** May 2019-Feb 2024	**2**	**€ 8 373 250** EU funding: € 6 926 375 EFPIA contribution: € 1 417 500 Other: € 29 375	**Defining a new place for ethionamide in 1st line TB treatment**	**BioVersys AG**	**BioVersys AG**	https://amr-accelerator.eu/project/tric-tb
UNITE4TB	**84 months** Jun 2021-May 2028	**29**	**€ 185 000 000** EU funding: € 92 500 000 EFPIA contribution: € 62 364 744 Associated Partners: € 30 135 256	**Accelerating the development of new treatment regimens for TB**	**Stichting Radboud Universitair Medisch Centrum**	**GSK**	https://www.unite4tb.org

Supplementary Table 2 | AMR Accelerator research infrastructure and tools/resources for drug discovery and development

Project	Result type	Infrastructure and tools/resources	Delivery date
AB-Direct	PBPK models	Physiologically based pharmacokinetic (PBPK) models allowing between-species extrapolations to predict gepotidacin exposure in various tissues of patients with various patho-physiological characteristics and treated with various dosing regimens.	2023
AB-Direct	PK/PD models	Pharmacokinetic/Pharmacodynamic (PK/PD) models to relate gepotidacin tissue concentrations versus time profiles to the kinetics of effect and eventually select the best dosing regimens to reach optimal antimicrobial efficacy.	2023
COMBINE	Animal infection model	Standardised *in vivo* pneumonia mouse model to test small molecule antibiotics.	2025
COMBINE	Bacterial strain repository	Preclinical repository with bacterial strains found to be reproducibly virulent and fulfilling performance criteria in the COMBINE standardised pneumonia mouse model.	2023
COMBINE	Algorithm	Machine learning algorithm for predicting whether a compound will be active against broad spectrum (Gram-positive, Gram-negative, and acid-fast) bacterial strains.	2024
COMBINE	Protocol	New bioassay protocol ontology enabling conversion of unstructured bioassay protocol data into structured machine-readable formats that promote reusability, and allows accurate description of *in vivo* efficacy study metadata for antibiotic agents.	2023
COMBINE	Recommendations	Recurring issues and mitigation strategies for the (clinical) development of vaccines and monoclonal antibodies against ESCAPE infections.	2024
ERA4TB	Repository and Protocol	Drug Development Information Management (DDIM) System with procedures for acquisition, curation, and integration of internally and externally generated tuberculosis (TB) specific data sets.	2022
ERA4TB	Hollow fiber infection model	Hollow fiber system for tuberculosis (TB): PK/PD technology implemented to work with BSL3 pathogens. Deliverable and publication.	2023
ERA4TB	Protocol	Implementation of epidemiological cut-off (ECOFF) and clinical breakpoints (CBs) following the EUCAST reference method for any newly approved agents.	2023
ERA4TB	Animal infection models	Mouse and non-human primate TB infection models implemented, set of non-invasive biomarkers (PET/CT imaging, cellular, cytokines, molecular biomarkers) and models to follow	2025

		disease evolution and response to treatment in development.	
ERA4TB	Development Infrastructure	Preclinical and Phase I European Open Platform to accelerate the development of new regimens for the treatment of TB.	2025
ERA4TB	Platform	C-Path Data Archive provides access to databases/repositories containing multiple legacy TB clinical trials and preclinical experiments for ERA4TB partners, other TB consortia and qualified researchers.	2021
ERA4TB	Repository	Platform for Aggregation of Clinical TB Studies (TB-PACTS, part of the C-Path Data Archive) contains data from TB clinical trials. Application required to gain access.	2021
ERA4TB	Repository	TB-Platform for the Aggregation of Preclinical Experiments Data (TB-APEX, part of the C-Path Data Archive) catalogues preclinical trial data sets. Application required to gain access.	2022
ERA4TB	Standardization	Standardized time-kill assays protocol with most replicable and efficient plating methods, increased throughput and structured data reporting.	2023
GNA NOW	Quality management system	Establishment of standards and consensus protocols of *in vitro* PK/PD data determination to allow inter-laboratory comparisons.	2025
GNA NOW	Protocol	Development of bioanalytical methods to quantify cationic peptides, such as antibiotic odilorhabdin derivatives, in various types of body fluids.	2021
GNA NOW	Protocol	Design and generation of biosynthetic gene cluster for heterologous production of odilorhabdins.	2023
GNA NOW	Assay	*Ex vivo* culture of rat mast cells to anticipate the risk of pseudo-allergic reaction for cationic peptides.	2022
GNA NOW	Assay	UpMIC, a combined MIC and uptake determination assay.	2023
GNA NOW	Target Product Profile	Consensus target product profile (TPP) for antibiotic treatment of severe (paediatric) enteric bacterial infection in low- and middle-income countries.	2024
GNA NOW	Bacterial strain repository	Collection of Gram-negative pathogens relevant to severe diarrhoea in low- and middle-income countries.	2025
PrIMAVeRa	Repository	Epidemiological repository of patient-level data on frequency measures, clinical outcomes, mortality and economic impact associated with the most common pathogens.	2025
PrIMAVeRa	Mathematical model	Open access cost-effectiveness model that may inform public health officials, policymakers and the wider scientific community about the net	2025

		benefit for public health when applying vaccines against AMR.	
RespiriNTM	Bacterial strain repository	Collection of clinical isolates of *M. avium* and *M.abscessus*, including multi-drug and extensively drug resistant isolates.	2025
RespiriNTM	Animal infection model	Development of novel mouse model for *M. abscessus* infection.	2025
RespiriTB	Bacterial strain repository	Collection of clinical isolates of *M. tuberculosis*, including multi-drug and extensively drug resistant isolates.	2025
TRIC-TB	Protocol	Development of bioanalytical techniques to quantify alpibectir and ethionamide levels in cerebrospinal fluid (CSF). CSF concentrations can be used as a surrogate measure for assessment of central nervous system (CNS) drug delivery in early preclinical drug development.	2025
TRIC-TB	Protocol	Development of microbiological assay to assess the minimal inhibitory concentration of the alpibectir/ethionamide combination *in vitro*.	2025
UNITE4TB	Repository	Development and management of data, human sample and bacterial strain repositories. The data repository will contain de-identified patient-level data and access will be secured through a data collaboration platform. The human sample biobank will contain sputum, blood and urine samples will accompanying metadata for future research use. The bacterial strain biobank will incorporate strains isolated from participants within UNITE4TB trials.	2027-8
UNITE4TB	Biomarkers	Novel microbiological and immunological biomarkers evaluated for use as alternative clinical endpoints in mid-stage TB trials.	2027
UNITE4TB	Protocol	The development of a MAMS seamless trial design with EMA feedback that may be utilized beyond the PARADIGM4TB trial.	2024
UNITE4TB	Machine learning model	The development and assessment of a machine learning model to incorporate multiple data sets (clinical, biomarkers, PK) to predict relapse-free cure of TB.	2027
UNITE4TB	Clinical trial network	Establishment of new global clinical trial network, with sites across four continents for mid/late- stage evaluation of anti-TB regimens comprising new chemical entities. Selection of one or more regimen for subsequent Phase III evaluation.	2028

More information on AMR Accelerator tools and resources: https://amr-accelerator.eu/tools-and-resources

Supplementary Table 3 | COMBINE coordination and support

Coordination	Data Management	Communication and stakeholder engagement
• Coordination committee* • Annual meetings • Scientific interest groups • Expert workshops and webinars	• Guidance on implementation of FAIR data standards • Guidance on data management planning • Knowledge Graph • Software tools	• Communication Advisory Board** • Communication materials • Website • News updates and social media support

* Cross-project collaborative platform with key representatives from the AMR Accelerator projects.

** External experts supporting the exchange of news and results between the AMR Accelerator and other stakeholders in the AMR field.