

TBValid Data Collection

General information

Data Set Title: "TBValid collection: Tuberculosis data"

Data Set Author/s:

- Francesco Pappalardo (Università degli Studi di Catania, Dipartimento di Scienze del Farmaco e della Salute), ORCID: 0000-0003-1668-3320
- Giulia Russo (Università degli Studi di Catania, Dipartimento di Scienze del Farmaco e della Salute), ORCID: 0000-0001-6616-7856
- Valentina Di Salvatore (Università degli Studi di Catania, Dipartimento di Scienze del Farmaco e della Salute), ORCID: 0000-0001-5576-3070
- Miguel A. Juárez (University of Sheffield, School of Mathematics & Statistics), ORCID: 0000-0002-5128-0976

Data Set Contact Person/s: Francesco Pappalardo (Università degli Studi di Catania, Dipartimento di Scienze del Farmaco e della Salute), ORCID: 0000-0003-1668-3320, francesco.pappalardo@unict.it

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Publication Year: 2023

Project Info: In Silico World (Lowering barriers to ubiquitous adoption of In Silico Trials), funded by European Commission, Horizon 2020 Programme. Grant Agreement num. 101016503; <https://insilico.world/>.

Dataset description

The TBValid dataset comprises 870 digital patients with different profiles, each with fixed Age, BMI and MtbSputum. Each is identified by a vector of features involving biological and pathophysiological parameters to roughly

represent different profiles in the population and initial bacterial load. Individual patient data collected during a clinical trial have been transformed into aggregated data, which are already irreversibly anonymised. Subsequently, these aggregated data have been sampled through the procedure described in *“Generation of digital patients for the simulation of tuberculosis with UISS-TB”*, doi: 10.1186/s12859-020-03776-z. The obtained derivative dataset, owned by its creators, does not constitute sensitive data according to European laws, and it is impossible with this dataset to re-establish the identity of the patients enrolled in the original clinical trial.

Inclusion criteria

To be included in the subject cohort, all patients need to meet the following inclusion criteria:

- Diagnosed with pulmonary DS- or MDR-TB, and managed with standard-care TB drugs accordingly;
- Attending a TB unit / hospital routinely diagnosed with pulmonary DS- or MDR-TB with clinical status ≥ 6 with Bandim TB score combined with chest radiography; and microbiological criteria (MGIT sputum culture), by using rapid genetic testing, gene Xpert;
- Patients who have not received any anti-tubercular treatment in last 6 months
- Females and males aged ≥ 18 ;
- The patient must provide written informed consent;
- The patient must be willing and able to attend all study visits and comply with all study procedures.
- Having successfully completed 1 week or 1 month (depending on the cohort) of DS- or MDR-TB treatment, respectively, fully supervised; and with beneficial initial response to therapy, evidenced by clinical response

Data formats

The dataset is provided as a CSV file with subject cohort data (TBValid.csv). For each subject, identified by one unique patient ID, the file reports the following data with relative ranges:

INPUTS	Description	i_{Min}	i_{MAX}
Mtb_Sputum (CFU/mL)	Bacterial Load in the sputum smear	0	10000
Th1 (%)	CD4 T cell type 1	0	100
TC (%)	CD8 T cell	0	100
IL-2 (pg/mL)	Interleukin 2	0	894
IL-10 (pg/mL)	Interleukin 10	0	516
IL-12 (pg/mL)	Interleukin 12	0	10000
IFNG (pg/mL)	Interferon gamma (IFN- γ)	0	50000
TNF (pg/mL)	Tumor Necrosis Factor	0	1000
Treg (%)	Regulatory T cells	0	100
Age (years)	Age	10	80
BMI (kg/m ²)	Body Mass Index	18	35

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