

Antimicrobial susceptibility testing data submission

A) Submission Procedure:

[1] Account registration:

Data providers should already have an EBI/ENA account and have submitted the read data they want to link with MICs (see tutorial on “Submitting read data”).

[2] Data upload:

Create a directory called “antibiogram” on your computer and place the files containing your susceptibility data inside it.

Connect to the EBI/ENA website (<http://www.ebi.ac.uk/ena>). Go to the “Submit & Update” tab, then click on “Submit to ENA”. Enter your account information to connect (Webin-NNNN and password).

Go to the “New submission” tab and click on “Launch uploader”. You will then access the Webin Java web start EBI uploader. Enter your Webin identifier (“username”) and Webin password, then connect. Browse to the “Upload Directory” containing your files (“antibiogram”). Select the files you want to upload. Tick the boxes “Overwrite” and “Upload Tree” to copy the directory and the files. Click on “Upload” to start the transfer.

If you want to use a different method or are having trouble with the Java web start application, you can use FTP (file transfer protocol) or Aspera to upload the files. Note that if you use an FTP client such as FileZilla you will have to create manually a directory called “antibiogram” on the EBI Remote site, in which you will then transfer the susceptibility testing data files.

More information and help on the file transfer can be found at this address:

<https://www.ebi.ac.uk/ena/submit/uploading-data-files>

[3] Data upload confirmation:

- Please email to datasub@ebi.ac.uk and let us know about your upload.
- Note the number of the study your isolates are linked to (study numbers start with PRJ followed by numbers) and the accession numbers of the isolates (starts with SAME and followed by numbers).
- Please provide “**COMPARE: Antibiogram**” in your email subject.
- Your email should start by: “**associate study PRJ..... with dcc_schubert**”
- In the body of your email please provide the **names of the submitted antibiogram files**.

B) Antimicrobial susceptibility data format

The accepted format of the file is a tab-delimited file. If you use Excel please save your file as 'Tab Delimited Text' and then submit the saved file.

Please note that all fields should exactly match the template in order to be recognized by the validation script. Please be sure to avoid any typos, additional blank spaces, upper and lower cases differences or other characters. To indicate decimals you should use a dot ["."] and not a comma [","].

The following are the fields and some explanations. The first line (header) of the tab file shall be the column names and shall be started by #. Please see the "antibiogram_example.txt" file (provided) if you want an example of correct template.

An example of the header is:

```
bioSample_ID      species      antibiotic_name  ast_standard
breakpoint_version laboratory_typing_method measurement
measurement_units measurement_sign resistance_phenotype
platform
```

Please note that the **Species** shall be unique in the submission file and each file should only represent experiments against one species. If you have tested multiple species, please provide one file per species.

- 1) Prepare an excel file as follows: open the file "antibiogram_template.txt"; copy the contents of the file into a blank excel sheet. Complete the form with your own data.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	bioSample_ID	species	antibiotic_name	ast_standard	breakpoint_version	laboratory_typing_method	measurement	measurement_units	measurement_sign	resistance_phenotype	platform							
2	SAMEA3113869	Pseudomonas aeruginosa	tobramycin	EUCAST	2015	Microbroth dilution	0.25-128	mg/L	=	susceptible	Vitek							
3	SAMEA3113869	Pseudomonas aeruginosa	actinomycin	EUCAST	2016	Microbroth dilution	0.5-64	mg/L	=	susceptible	Vitek							



- 2) Save the excel file as tab-delimited text. The final file should look like this:

```
bioSample_ID species antibiotic_name ast_standard breakpoint_version laboratory_typing_method measurement measurement_units measurement_sign resistance_phenotype platform
SAMEA3113869 Pseudomonas aeruginosa tobramycin EUCAST 2015 Microbroth dilution 0.25-128 mg/L = susceptible Vitek
SAMEA3113869 Pseudomonas aeruginosa actinomycin EUCAST 2016 Microbroth dilution 0.5-64 mg/L = susceptible Vitek
```

The explanations of the columns are as follows:

1. BioSample_ID (Mandatory)

BioSample ID needs to be provided (SAM accession, e.g. SAMEA3113869). BioSample IDs are attributed to submitted samples, so please submit first your raw fastq files (See the "Submitting data reads" protocol for more information).

2. Species (Mandatory)

3. Antibiotic_name (Mandatory)

4. AST_standard (Mandatory)

Accepted Antimicrobial Susceptibility Testing (AST) standards are: CLSI, EUCAST, CA-SFM, BSAC, DIN, SIR and WRG

5. Breakpoint_version (Mandatory)

Please state the version of AST standard protocol used for your isolates (Free-text).

6. Laboratory_typing_method (Mandatory)

Please indicate here the used antibiotic susceptibility method for your isolates. Choose from the following methods:

- Dilution methods:
 - Broth dilution
 - microbroth dilution
 - Agar dilution
- Diffusion methods:
 - Disc-diffusion
 - Neo-sensitabs
 - Etest

7. Measurement

Can be a fixed number or a range

Ranges for dilution : 0.01 to 2048

Ranges for Diffusion: 6 to 99

8. Measurement_units (Mandatory)

For dilutions methods: mg/L

For diffusion methods: mm

9. Measurement_sign (Mandatory)

>, <, =

10. Resistance_phenotype (Mandatory)

intermediate, susceptible (or sensitive), resistant, non-susceptible, not defined

11. Platform (optional)

free-text