



# MYCOBACTERIUM TUBERCULOSIS WHOLE GENOME SEQUENCING REPORT

NOT FOR DIAGNOSTIC USE

Patient Name	DIANE EVANS	Patient ID	34567890
Birth Date	1887-04-04	Location	LONDON
Sample Type	SPUTUM	Sample Date	1916-12-30
Reporting Lab	OXFORD	Report Date	1917-01-09

## Summary

The specimen was positive for **Mycobacterium tuberculosis**. It is predicted to be **resistant to Ethambutol, Pyrazinimide, Isoniazid, Rifampin, and Streptomycin**. It belongs to a cluster, suggesting **recent transmission**

## Organism

The specimen was positive for **Mycobacterium tuberculosis**

## Drug Susceptibility

Drug susceptibility is predicted by the detection of known *M. tuberculosis* drug resistance conferring genetic mutations

- ☐ No drug resistance predicted
- ☐ Mono-resistance predicted
- ☐ Multi-drug resistance predicted
- ☒ Extensive drug resistance predicted

Drug class	Prediction	Drug	Resistance Gene (Amino Acid Mutation)
First-line	Resistant	Ethambutol	emb (M306I)
		Pyrazinimide	pncA (T47A)
		Isoniazid	katG (S315T)
		Rifampin	rpoB (S531L)
Second-line	Sensitive	Ciprofloxacin	No resistance mutation detected
		Moxifloacin	No resistance mutation detected
		Amikacin	No resistance mutation detected
		Kanamycin	No resistance mutation detected
		Capreomycin	No resistance mutation detected
	Resistant	Streptomycin	rpsL (K43R)



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## Cluster Detection

Current specimen was found to be closely clustered with previous specimens suggesting **recent transmission**

Relatedness	Number of prior matching isolates
Likely Related (< 5 SNPS apart)	2 isolates
Possibly Related (6 to 30 SNPS apart)	2 isolates

