

Resistance mechanisms against aminoglycoside antibiotics

Intrinsic resistance mechanisms include:

- Ribosomal mutation
- Ribosome modification
- Antibiotic modifying enzymes
- Change in membrane permeability
- Efflux pump
- Membrane protease

Adaptive resistance mechanisms include:

- Biofilm matrix
- Persister cells
- Physiological changes
- Swarming motility

Acquired resistance mechanisms include:

- Chromosomal mutation
- Gene mutation
- Uptake of resistance gene
- Uptake of resistance plasmid