

**MINIMAL INHIBITION
CONCENTRATION (MIC)
DETERMINATION**

- Dilution Method This method involves diluting a series of antibiotics in liquid or solid medium and then adding equal amounts of a suspension of bacteria containing the specific number of bacteria to each dilution medium. The results are then assessed after the test series are held for the appropriate time (18-24 hours) and temperature (37 ° C).

- The minimum amount of antibiotic that inhibits the replication of the bacterium is determined on this evaluation, which is expressed as the "Minimum Inhibitor Concentration" (MIC) in the experimental conditions for the antibiotic tested bacterium. The concentration that kills bacteria is expressed as Minimal bactericidal concentration = MBK.

- It is considered that the microorganism is susceptible to this antibiotic if the concentration in the patient's serum reaches or exceeds the MIC value after the patient has been treated with the antibiotic. Conversely, an antibiotic is considered to be resistant to antibiotics if the MIC for the infectious effect m.o is above the level that the antibiotic can attain in the body, or if the MIC is toxic to the antibiotic host.

- Ideally, when antimicrobial therapy is given, the amount of antibiotic at the site of infection is expected to be twice as much as the MICs for m.o in in vitro conditions, and even more in patients with immune deficiency.

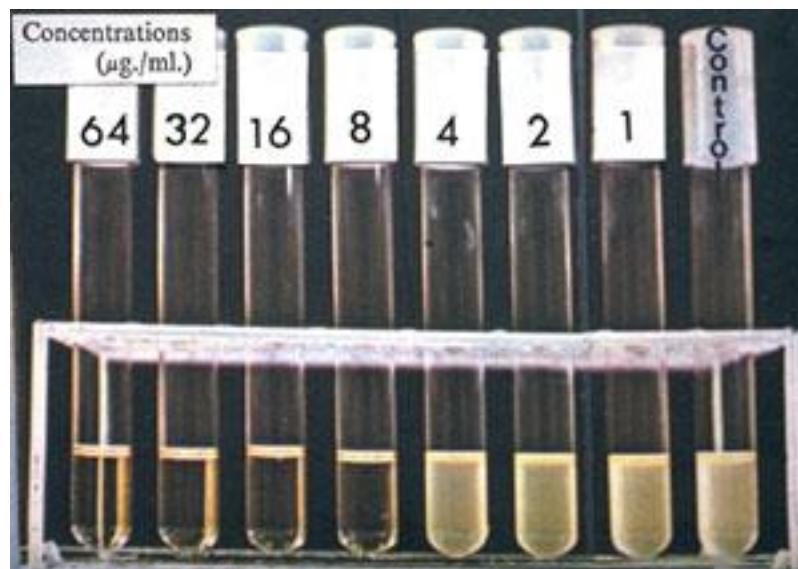
- Concentrations of antibiotics in urine, CSF, other body fluids may be very different. These differences are taken into account when choosing treatment. As a result, sensitivity and resistance; Instead of infection, the causative agent depends on m.o. and the antibiotic tested.

- The concentration at which an antimicrobial agent can reach the human, non-toxic serum or tissues that provides optimal treatment is referred to as the "limit value". The National Committee for Clinical Laboratory Standards (NCCLS) publish guidelines on the limit values of antibiotics. The antibiotic concentrations to be used in the dilution methods are adjusted to accommodate the limit values specified in this guideline.

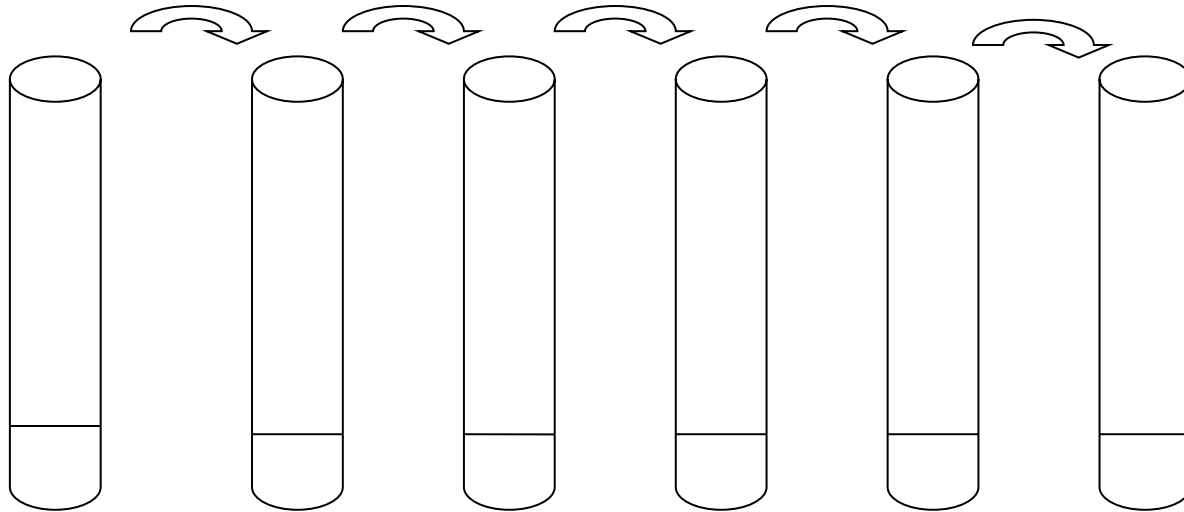
- The baseline dilution method is called macrodilution when done in test tubes. In this method, the nutrient is used in large volumes (milliliters). Microdilution is the shape of the microplate, which is applied on microplates containing very small volume wells with fewer volumes. (Microliters)

- MIC is the concentration of an antimicrobial substance that inhibits the replication of the microorganism tested. If the effect of the antimicrobial substance which inhibits uremia is lifted then it is possible that m.o can reproduce.

- As a result of the dilution method, the seeds are cultured on the solid medium by taking the specific amount of the untreated tubers. Colony counting is done after incubation at appropriate temperature and time.
Bactericidal antimicrobial agents The concentration of the antimicrobial agent in which 0.1% or less of the initial inoculum remains alive when MBK kills 99.9% of the cell population is expressed as MBK.







- 1 ml MHB
- +
- 1ml
- Kemoterapötik madde (Dilüe et)

-
- $1/2$
- +
- 1 ml bak. Süsp.
- $1/4$

- 1 ml MHB
- +
- 1 ml
- $1/8$

- 1 ml MHB
- +
- 1 ml
- $1/16$

- 1 ml MHB
- +
- 1 ml
- $1/32$

- 1 ml MHB
- +
- 1 ml
- $1/64$

- 1 ml MHB
- +
- 1 ml
- $1/128$