

# *Kimia Andisheh Gene Pouyan*

*Knowledge based, technology- and research*



## *Technical Manual*

- *McFarland standard*
- *Catalogue Code :KAT/25/01*
- *vol: 6ml*
- *Research Use Only*

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**McFarland standard has an OD<sub>600</sub> of approximately 0.08 to 0.1, but you will need to determine this relationship for your specific spectrophotometer.**

Typically, McFarland standards range from 0.5 to 10, with each standard representing a specific bacterial concentration. For instance, a 0.5 McFarland standard corresponds to approximately  $1.5 \times 10^8$  CFU/mL (colony-forming units per milliliter).

The expected OD<sub>600</sub> is determined by counting the cell number using an alternative technique (for example, the microscope slide method) and converting it to OD<sub>600</sub> using the rule of thumb that  $1 \text{ OD}_{600} = 5 \times 10^8$  cells/mL for *E. coli*.

**Note to users:**

1. The absorbance measurement should be performed using a spectrophotometer with a 1 cm optical path length.
2. The absorbance of the 0.5 McFarland standard at a wavelength of 600 nm should range between 0.08 and 0.13.
3. Before each use, vigorously vortex the turbidity standard and check its appearance for uniform turbidity. If large particles are observed, it should be replaced with a new standard.
4. The absorbance of the 0.5 McFarland standard should be measured every six months and replaced if necessary.
5. The 0.5 McFarland standard vial should be replaced after a maximum period of six months.
6. After each use, the vial cap should be tightly closed and the vial stored at room temperature in a dark environment.

**Reference:**

**Performance Standards for Antimicrobial Disk Susceptibility Tests- Approved Standard, Eleventh Edition; M02–A11, Vol. 32 No. 1, January 2012**

## Quality control (OC)

	A	B	C	D	E
1	0.093				
2	0.093				
3	0.096				
4	0.095				
5	0.097				
6	0.1				
7	0.101				
8	0.1				
9	0.099				
10	0.1				
11	0.106				
12	0.105				
13	0.104				
14	0.101				
15	0.099				
16	0.1				
17	0.101				
18	0.099				
19	0.098				
20	0.099				
21	0				
22	0.0034504				
23	3.485252964				
24					
25					
26					
27					

SD

CV

QC PASSED ✓

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- Expert working group and different orientations.
- Up-to-date equipment for research and knowledge development.
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