



PYRIDOXAL DISKS

- For in vitro use only -

Catalogue No. DP96

Our Pyridoxal Disks are used to aid in the presumptive identification of *Abiotrophia* or “nutritionally variant” streptococci.

Members of the genus *Abiotrophia* were initially considered to be nutritionally mutants of viridans streptococci, but comparative 16S rRNA sequencing determined that these organisms were significantly different from streptococci to warrant the creation of the new genus, *Abiotrophia*. *Abiotrophia defectiva* and *A. adijensis* are normal residents of the oral cavity that have been associated with bacteremia, and more importantly endocarditis involving both native and prosthetic valves. Detection and cultivation of *Abiotrophia* is more difficult since they require the addition of 0.001% pyridoxal (vitamin B₆) for growth; normal sheep blood agar plates may not support the growth of *Abiotrophia* since they lack the sufficient amount of pyridoxal.

Our Pyridoxal Disks contain a sufficient amount of pyridoxal to stimulate the growth of *Abiotrophia*, which, upon incubation, appear as small satellite colonies around the disk. Other pyridoxal dependent organisms include *Streptococcus mitis* which exhibits the same satelliting phenomenon as *Abiotrophia* species.

Recommended Procedure

1. Obtain a fresh, overnight culture of test organism grown on a blood or chocolate agar plate supplemented with 0.001% pyridoxal.
2. Using a sterile swab, streak a sample of the organism onto a non-selective blood agar plate in three directions.
3. Aseptically place a pyridoxal disk on the agar surface.
4. Incubate at 35°C in an aerobic environment supplemented with 5% CO₂.
5. Examine the growth pattern around the disk after 24 and 48 hours of incubation.

Interpretation of Results

Members of the genus *Abiotrophia* grow as small, satelliting colonies around the disk with little or no growth on the rest of the plate. Other bacterial species show heavy confluent growth throughout the plate.

Quality Control

Organism	Expected Results	
<i>Abiotrophia defectiva</i> ATCC 49176	+ve	Growth and satelliting around disk
<i>Streptococcus mitis</i> ATCC 43205	+ve	Growth and satelliting around disk
<i>Streptococcus pyogenes</i> ATCC 19615	-ve	Growth throughout plate

Storage and Shelf Life

Our Pyridoxal Disks should be stored at -20°C and protected from light. Under these conditions they have a shelf life of 52 weeks from the date of manufacture.

References

1. Roberts RB, Krieger AG, Schiller NL, Gross KC. Viridans streptococcal endocarditis: the role of various species, including pyridoxal-dependent streptococci. *Reviews of Inf Dis* 1979; 1:955-965.
2. Colman G, Ball LC. Identification of streptococci in a medical laboratory. *J Appl Bacteriol* 1984; 57:1-14.

3. Baron EJ, Tenover FC, Tenover FC, Tenover FC. *Bailey and Scott's diagnostic microbiology*. 8th ed. St. Louis: Mosby, 1990.
4. Murray PR, Baron EJ, Pfaller MA, Tenoer FC, Tenover FC, Tenover FC. *Manual of clinical microbiology*. 7th ed. Washington, DC: ASM, 1999.

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