



## *In vitro* antibacterial activity of Anantha Bairavam

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### Abstract

The Siddha system revolves around the philosophy of promotion and rejuvenation of the body and preventing the diseases. Vast and vast number of medicinal preparations were texted in siddha old books. This study is conducted to evaluate the anti microbial activity of Anantha Bairava Mathirai by disc diffusion method.

**Keywords:** Siddha Medicine, Anantha Bairava Mathirai, Antibacterial Activity.

### Introduction

The drugs of complementary alternative system of medicine have been used since centuries. The siddha system of medicine is one among the complementary system that has been used since long ago. Siddhars lay emphasize on healthy gut flora for disease free life. The gut flora promotes optimal digestive function, provides a robust immune response, regulates metabolism and even compromises more than 75% of our immune system.

In the present study, efforts has been taken to establish the anti microbial activity of Anantha Bairava Mathirai which is indicated for "Seethanga Sanni".

### Materials and Methods

#### Antibacterial Activity Procedure

#### Test Organism

The test microorganisms used for antimicrobial analysis *Staphylococcus aureus* MTCC737, *Bacillus subtilis* MTCC 441, *Streptococcus mutans* MTCC 890, *Proteus vulgaris* MTCC 426, *Klebsiella pneumoniae* MTCC 530, *Escherichia coli* MTCC 443, *Aspergillus niger* MTCC 281, *Aspergillus. flavus* MTCC 535 and *Candida albicans* MTCC 277, were purchased from Microbial Type Culture Collection and Gene Bank (MTCC) Chandigarh. The bacterial strains were maintained on Nutrient Agar (NA) and fungi on Sabouraud Dextrose Agar (SDA).

### Nutrient Broth Preparation

Pure culture from the plate were inoculated into Nutrient Agar plate and sub cultured at 37°C for 24 h. Inoculum was prepared by aseptically adding the fresh culture into 2 ml of sterile 0.145 mol/L saline tube and the cell density was adjusted to 0.5 McFarland turbidity standard to yield a bacterial suspension of  $1.5 \times 10^8$  cfu/ml. Standardized inoculum Used for Antimicrobial test.

### Antimicrobial Test

The medium was prepared by dissolving 33.9 g of Muller Hinton Agar Medium (Hi Media) in 1000 ml of distilled water. The dissolved medium was autoclaved at 15 Lbs pressure at 121°C for 15 min (pH 7.3). The autoclaved medium was cooled, mixed well and

poured onto 100 mm petriplates (25 ml/plate) the plates were swabbed with Pathogenic Bacteria culture viz. *S. aureus*, *B. subtilis*, *S. mutans*, *P. vulgaris*, *K. pneumoniae*, *E. coli*. Finally, The Sample or Sample loaded Disc was then placed on the surface of Muller-Hinton medium and the plates were kept for incubation at 37°C for 24 hours. At the end of incubation, inhibition zones were examined around the disc and measured with transparent ruler in millimeters. The size of the zone of inhibition (including disc) was measured in millimeters. The absence of zone inhibition was interpreted as the absence of activity (Kohner et al., 1994; Mathabe et al., 2006). The activities are expressed as resistant, if the zone of inhibition was less than 7 mm, intermediate (8-10 mm) and sensitive if more than 11 mm (Assam et al., 2010).

### Results

**Table 1. Antibacterial activity of Anantha Bairavam**

Bacterial name	Extract	Positive control
<i>Proteus vulgaris</i>	NZ	20mm
<i>Klebsiella pneumoniae</i>	8mm	20mm
<i>E. coli</i>	NZ	20mm
<i>Bacillus subtilis</i>	NZ	15mm
<i>Streptococcus mutans</i>	16mm	22mm
<i>Staphylococcus aureus</i>	24mm	20mm



**Figure 1. Antibacterial activity of Anantha Bairavam (*Klebsiella pneumoniae*)**

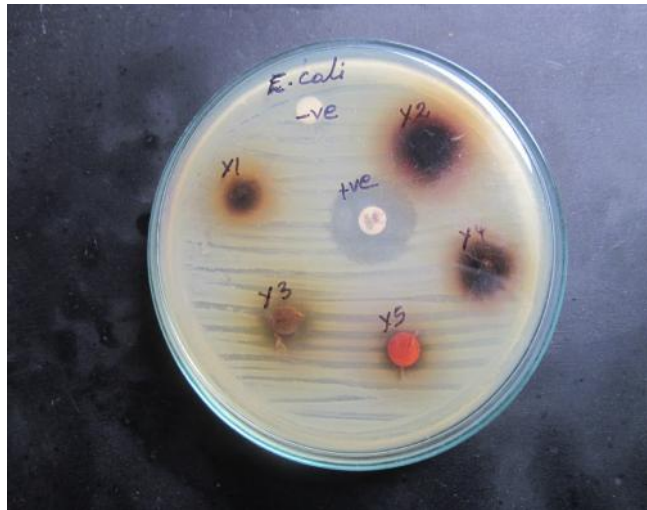


Figure 2. Antibacterial activity of Anantha Bairavam (*E. coli*)

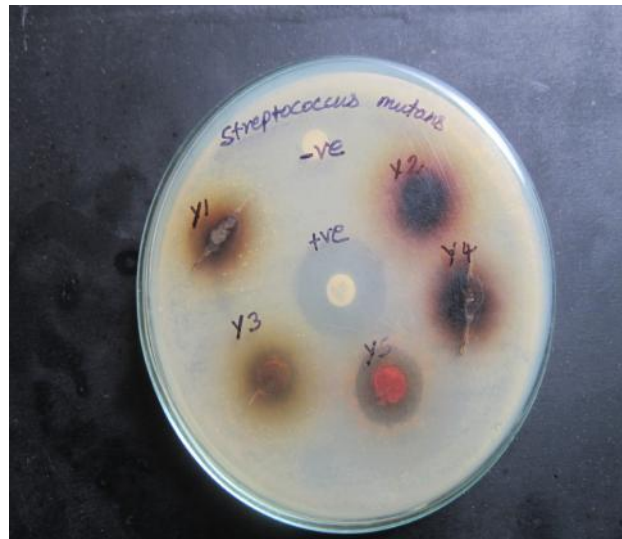


Figure 3. Antibacterial activity of Anantha Bairavam (*Streptococcus mutans*)



Figure 4. Antibacterial activity of Anantha Bairavam (*Proteus vulgaris*)



Figure 5. Antibacterial activity of Anantha Bairavam (*Staphylococcus aureus*)

## Conclusion

This study proved that Anantha bairava Mathirai has effective anti microbial activity against the *Staphylococcus aureus*. Further studies are required to confirm the efficacy of Anantha Bairava Mathirai.

## References

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