

Antibacterial Activity of *MEDICINAL PLANT* (*CASSIA TORA*)

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Abstract

Essential oil from the leaves of *Cassia tora* was investigated for their antibacterial activity. Their concentrations 0.15mg, 0.31mg ethanolic and aqueous extracts respectively were studied in activity, which involved the determination of inhibition zone in mm. Both the extracts exhibited significant antibacterial activity. Ciprofloxacin used as standard reference.

Key words: Antibacterial Activity, *Cassia tora*.

Cassia tora (Leguminosae) is a wild crop and grows in most parts of India as a weed. According to Ayurveda the leaves and seeds are acrid,¹ laxative, antiperiodic, anthelmintic, ophthalmic, liver tonic, cardiogenic and expectorant. The leaves and seeds are useful in leprosy, ringworm, flatulence, colic, dyspepsia, constipation, cough, bronchitis, cardiac disorders.

Objective of this work was to explore the antibacterial properties of *Cassia tora* leaves.

Cassia tora leaves were collected from local area of Indore.

Dried leaves at room temperature and 10gm powdered leaves were successively defatted with petroleum ether (40-60^o).

Defatted residue was extracted with ethanol. Aqueous extract of this plant was prepared separately by boiling plant material with 200ml of water for 45 min. the obtained extract was evaporated on water bath to give dried residues. Percentage yield of various extracts was found to be 3.00% (ethanol), 10.3% (aqueous extract)¹⁻⁷.

Antimicrobial activity :

Ethanolic and aqueous extracts from the leaves of *Cassia tora* were investigated for their antibacterial activity against *Pseudomonas aeruginosa*, *Salmonella typhi*, *Bacillus subtilis*, *Staphylococcus aureus*, *proteus*, *klebsiella* bacterias¹⁻⁵.

The filter paper disc method was performed using Nutrient broth media. These

Table 1. Antimicrobial activity Data of cassia tora leaf

S. No.	Name of Bacteria	Zone of Inhibition (mm)		
		Ethanollic Extract (0.15mg)	Aqueous Extract (0.31mg)	Std (2mg)
1.	P. aeruginosa	10.00	11	18
2.	S. typhi	-	4	24
3	B. subtilis	8.00	10 .5	20
4	S. aureus	11 .5	14.5	22
5	Proteus	13	12	19
6	Klebsiella	9	11	16

agar media were inoculated with 0.5 mL of the 24 h liquid cultures containing 10^7 microorganisms / ml. Filter paper discs (3 mm diameter) saturated with solutions of each compound (concentrations $100\mu\text{g/ml}$ in DMSO) was placed on the indicated agar mediums. The incubation time was 24 h at $37 \pm 2^\circ\text{C}$. Standard discs of ciprofloxacin of $5\mu\text{g/ml}$ were used. Zone of inhibition was observed by zone reader scale. The tests were repeated to confirm the findings and the average of the readings was taken into consideration¹⁻⁷.

Antimicrobial activity of Ethanolic extract (0.15mg) and Aqueous extract (0.31mg) against various bacteria but maximum activity is shown by Aqueous extract S. aureus, Klebsiella, Proteus and moderate activity against B. subtilis, P.aeruginosa and less activity against S. typhi. While ethanolic extract show less activity against B. Subtilis and no

activity against S.typhi as comparative to standard shown on table.

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