

पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 1/2025
ISSUE NO. 1/2025

शुक्रवार
FRIDAY

दिनांक: 03/01/2025
DATE: 03/01/2025

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :22/12/2024

(21) Application No.202441101770 A

(43) Publication Date : 03/01/2025

(54) Title of the invention : Cytotoxic Activity of Sesbania grandiflora Seed Extract and Ziziphus mauritiana Leaf Extract Against Human Pancreatic Cancer and Acute Leukemia Cell Lines

(51) International classification	:A61P003500000, A61P0035020000, A61K0008978900, A23L0033105000, G01N0033500000	(71)Name of Applicant : 1)Balakrishna Vuyyala Address of Applicant :Plot no-669, SKD Nagar, BN Reddy Nagar ----- ----- 2)Mrs. M. Soumya 3)Dr. Divya Yada 4)Ms. Madhavi Reddy 5)Mrs. Boreddy Himaja 6)Mrs. Pitta Lavanya 7)Dr. Kranthi Kumar Pola 8)Mrs. P.Moulika 9)Mr. Kosika Sandeep 10)Mr. Chindam Suresh Name of Applicant : NA Address of Applicant : NA
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(87) International Publication No	: NA	
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

Herbal medicine, derived from plants, contains natural compounds with therapeutic properties, including anticancer effects. This study evaluated the anticancer activity of Sesbania grandiflora seed extract and Ziziphus mauritiana leaf extract, comparing their effects on human cancer cell lines, THP-1 (human acute leukemia) and MIA PaCa-2 (pancreatic cancer). Anticancer activity was assessed using the MTT assay at concentrations ranging from 50–300 µg/ml. The results showed that Ziziphus mauritiana leaf extract exhibited significant cytotoxicity against pancreatic cancer cells (IC50 = 74 µg/ml) and moderate toxicity against human acute leukemia cells (IC50 = 141 µg/ml). In contrast, Sesbania grandiflora seed extract demonstrated moderate cytotoxicity against pancreatic cancer cells (IC50 = 342 µg/ml) and more effective toxicity against acute leukemia cells (IC50 = 196 µg/ml). Both extracts showed a dose-dependent reduction in cell viability and induced apoptosis in both cancer cell lines. These findings suggest that Ziziphus mauritiana and Sesbania grandiflora extracts have significant anticancer potential, with Ziziphus mauritiana being more effective against pancreatic cancer and Sesbania grandiflora showing more promise against acute leukemia. This study highlights the potential clinical significance of these herbal extracts in cancer therapy. Keywords: Sesbania grandiflora, Ziziphus mauritiana, anticancer activity, human acute leukemia, pancreatic cancer, apoptosis.

No. of Pages : 21 No. of Claims : 4



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 Department for Promotion of Industry and Internal Trade
 Ministry of Commerce & Industry,
 Government of India

(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic.in/index.htm>)

Application Details

APPLICATION NUMBER	202441101770
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	22/12/2024
APPLICANT NAME	1 . Balakrishna Vuyyala 2 . Mrs. M. Soumya 3 . Dr. Divya Yada 4 . Ms. Madhavi Reddy 5 . Mrs. Boreddy Himaja 6 . Mrs. Pitta Lavanya 7 . Dr. Kranthi Kumar Pola 8 . Mrs. P.Moulika 9 . Mr. Kosika Sandeep 10 . Mr. Chindam Suresh
TITLE OF INVENTION	Cytotoxic Activity of Sesbania grandiflora Seed Extract and Ziziphus mauritiana Leaf Extract Against Human Pancreatic Cancer and Acute Leukemia Cell Lines
FIELD OF INVENTION	CHEMICAL
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ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	03/01/2025