

# Indian Journal of Biotechnology

<http://www.niscair.res.in>

VOLUME 16

NUMBER 1

January 2017

CODEN: IJBNAR 16(1) (2017) 1-144

ISSN: 0972-5849 (print)

0975-0967 (online)

## CONTENTS

### Review

- Molecular characteristics of native and recombinant amylolytic biocatalysts of the extreme thermophile *Geobacillus thermoleovorans* 9  
Deepika Mehta & Tulasi Satyanarayana

### Papers

- Revisited immune reactivity between native semi-purified protoplasmic (caprine) versus commercial purified protoplasmic (bovine) antigens for the screening of goat herds endemic for Johne's disease 22  
Saurabh Gupta, Shoor Vir Singh & A K Bhatia
- Development and immunoreactivity evaluation of a chimeric recombinant protein encoding *Brucella* antigen: *In silico* to *in vitro* 30  
Abbas Abdollahi, Shahla Mansouri, Jafar Amani, Mahdi Fasihi-Ramandi & Mohammad Moradi
- Crustacean hyperglycemic hormone family gene silencing in *Penaeus monodon* mediated through dsRNA synthesized *in vitro* from genomic and cDNA 37  
S Vrinda, C Reshmi, Seena Jose, P Reynold, K K Vijayan, Rosamma Philip & I S Bright Singh
- Expression of canine relaxin precursor protein in *Pichia pastoris* host: A possible tool for early pregnancy diagnosis in bitches 44  
P Harikrishna, S K Bhure, A M Shende, Viswas Konasagara Nagaleekar, Praveen Singh & A M Pawde
- Antimicrobial peptides from the Asian harvester ants of the genus *Monomorium*: *In vitro* screening for antimicrobial activity 50  
Naga Chaitanya Bhagavathula, Venkateswarlu Meedidoddi, Krishnappa Chandrashekara & Santosh Kumar Kesavakurup
- Resistance to cotton leaf curl disease in transgenic tobacco expressing  $\beta CI$  gene derived intron-hairpin RNA 56  
Sadia Akhtar, Mohd Akmal & Jawaid A Khan
- Enhanced tolerance of transgenic sorghum expressing *mtlD* gene to water-deficit stress 63  
M Maheswari, Y Varalaxmi, S K Yadav, N Jyothilakshmi, M Vanaja & B Venkateswarlu
- Determination of genetic relationship among basmati and non-basmati rice (*Oryza sativa* L.) genotypes from North-West Himalayas using microsatellite markers 68  
R K Salgotra, Javid Akhter Bhat, B B Gupta & Sandeep Sharma

Evaluation of genetic diversity using random amplified polymorphic DNA (RAPD) markers in <i>Melia dubia</i> Cav. Vishal Johar, Subhash Kajla, R S Dhillon & Pankaj Bhatia	76
Similarity analysis of <i>Spirulina/Arthrospira</i> strains on the basis of phycocyanin operon locus (cpcB-IGS-cpcA) and 16S rRNA gene sequences Devendra Kumar, Dolly Wattal Dhar, Priyanka Nehra & Neeraj Kumar	84
Characteristics of recombinant maltogenic amylase of <i>Geobacillus</i> sp. SK70 Moohamad Ropaing Sulong, Thean Chor Leow, Raja Noor Zaliha Raja Abd Rahman, Mahiran Basri & Abu Bakar Salleh	91
Characterization of $\beta$ -galactosidase from yeast associated with starter cultures used in household alcohol production in Northeast India Prapty Das, Hridip K Sarma, Pranjan Barman, Krishna Bastola & Bhaben Tanti	100
A study on phosphate uptake by <i>Acinetobacter</i> sp. in presence of arsenate under aerobic condition Asha Lata Singh & Vipin K Singh	106
Application of a marine cyanobacterium <i>Phormidium fragile</i> for green synthesis of silver nanoparticles Smrutirekha Satapathy and Satya Prakash Shukla	110
Biodiesel production from <i>Fructus Schisandrae</i> seed oil Rongjun Fan, Jiabin Zhao, Yingda Du, Wei Zhao, Wei Guo, Jingang Yang & Xia Chen	114
Plant regeneration through isolated microspore culture in recalcitrant durum wheat genotypes Yasemin Coskun & Cigdem Savaskan	119
Effect of thidiazuron on <i>in vitro</i> regeneration potential of cotyledon and hypocotyl explants of cauliflower ( <i>Brassica oleracea</i> L. var. <i>botrytis</i> ) Ayesh Gaur & D K Srivastava	126
An efficient micropropagation of <i>Tinospora cordifolia</i> (Willd.) Miers ex Hook F & Thoms: A NMPB prioritized medicinal plant Jitendra Mittal, Yash Mishra, Abhijeet Singh, Amla Batra & Madan Moahn Sharma	133
<b>Short Communication</b>	
Status of genetic disorders among indigenous and crossbred breeding bulls in India K P Ramesha, Rani Alex, Akhila Rao, M Basavaraju, P Haritha, G R Geetha, M A Katakataware, D N Das & S Jeyakumar	138
<b>Instructions to Contributors</b>	141