

# Indian Journal of Biochemistry & Biophysics

<http://www.niscpr.res.in>; <http://nopr.niscpr.res.in>

VOLUME 62

NUMBER 10

OCTOBER 2025

CODEN: IJBBBQ 62 (10) 1043-1152 (2025)

ISSN: 0301-1208 (Print); 0975-0959 (Online)

## CONTENTS

### A Review

- Computational tools for CRISPR Off-target detection: An overview 1047  
 P Supriya\*, Tamanna Sharma, Swarajya Lakshmi N Bollineni, Gowtham Kumar, Vyshnavi M, P Sumathi, M Balakrishnan & Ch Srinivasa Rao
- Marine natural products as novel therapeutic approaches in Psoriasis: A comprehensive review 1056  
 Mirunalini Gobinath, L Priyanka Dwarampudi\*, Shanmugam Ramaswamy, Gobinath Manavalan, Nivedhitha S, Parikshit Roychowdhury, Subhajit Dutta, Swati Swagatika Swain, Dhanabal SP & Yamuna K

### Papers

- Regulatory role of SLC3A2 in Ferroptosis and its impact on head and neck squamous cell carcinoma: A bioinformatics study 1069  
 Mohanprasanth Aruchamy\*, Ramanathan Snega & Saravanan Muthupandian\*
- Insights into anti-tuberculosis activity of partially purified bioactive fraction from *Vitex negundo* L. petroleum ether extracts against *Mycobacterium smegmatis* -An *in vitro* and *in silico* approach 1077  
 Sadhana Sundararajan, and Rajiniraja Muniyan\*
- Green synthesized copper oxide nanoparticles from *Ocimum tenuiflorum* fabricated in PVC for antibacterial, antioxidant, and anticancer biomedical applications 1092  
 Johaan Ajith Prem, Saheb Ali, Suganya Panneer Selvam, Ramya Ramadoss & Sandhya Sundar
- Quantitative estimation of Pyrophosphate ions released during loop-mediated isothermal amplification 1101  
 Pulkit Srivastava, and Dinesh Prasad\*
- Computational insights into Curcumin's modulation of Epithelial-Mesenchymal Transition in pulmonary fibrosis 1111  
 Km Shivangi, Jai Prakash Moyal & Amaresh Mishra\*
- Mathematical modelling of time series data for tuberculosis notified cases in India using neural networks models: CNN, NNAR, and ANFIS models integrated with wavelets 1118  
 Mohit Kumar\*, Jatinder Kumar & Priya Kumari
- Computational assessment of N2-Aryl-1,2,3-triazoles as potential multi-target inhibitors 1129  
 Sunkara Muni Sireesha, and Beda Durga Prasad\*

Investigations on novel aedesin-derived peptides against ESKAPE pathogens 1142

Rajamohammed Khader, and Gurunathan Baskar\*

Instructions to Authors 1150

\*Author for correspondence

### Author Index

Ali S	1092	Kumari P	1118	Roychowdhury P	1056
Aruchamy M	1069				
Balakrishnan M	1047	Manavalan G	1056	Selvam SP	1092
Baskar G	1142	Mishra A	1111	Sharma T	1047
Bollineni SLN	1047	Muniyan R	1077	Shivangi KM	1111
		Muthupandian S	1069	Sireesha SM	1129
Dhanabal SP	1056	Muyal JP	1111	Snega R	1069
Dutta S	1056			Srivastava P	1101
Dwarampudi LP	1056	Nivedhitha S	1056	Sumathi P	1047
				Sundar S	1092
Gobinath M	1056	Prasad BD	1129	Sundararajan S	1077
		Prasad D	1101	Supriya P	1047
Khader R	1142	Prem JA	1092	Swain SS	1056
Kumar G	1047				
Kumar J	1118	Ramadoss R	1092	Vyshnavi M	1047
Kumar M	1118	Ramaswamy S	1056		
		Rao CS	1047	Yamuna K	1056

### Keyword Index

2,3-diaminophenazine	1101	Forecasting	1118	N2-Aryl-1,2,3-triazoles	1129
<i>Adenomatous polyposis coli</i>	1129	<i>Galleria mellonella</i>	1142	Nanoparticle	1092
Antibacterial	1092	GC-MS analysis	1077	<i>Ocimum tenuiflorum</i>	1092
Anti-inflammatory activity	1056	Genome editing	1047	Off-target	1047
Antimicrobial peptides	1142	Glutathione peroxidase 4	1069	O-phenylenediamine	1101
Antioxidant	1056, 1092	Glutathione	1069		
Artificial intelligence	1118	Guide RNA	1047	Plaque psoriasis	1056
Autoimmune disorders	1056			Polyvinyl chloride	1092
Bacterial disruption	1077	HEPG2 cell lines	1142	Preclinical validation	1111
Biosynthesis	1092	Histone deacetylase 8	1129	Protein-protein interaction	1111
				Reactive oxygen species	1069
Carbon dots	1101	<i>In silico</i>	1111		
Copper oxide	1092			<i>Salmonella</i>	1101
CRISPR	1047	Limit of detection	1101	Solute carrier family 3	1069
Cytochrome P450	1129			member 2	
Db8 wavelet	1118	Marine metabolites	1056	SwissADME	1111
Deep learning	1047	MATLAB	1118		
Diagnosis	1101	Minimal inhibitory	1142	Time-kill assay	1077
DNA amplification	1101	concentration		Toxicity prediction	1111
Docking	1129	Molecular docking	1111	Tuberculosis	1118
		Molecular dynamic	1077		
Drug designing	1129	simulation		Virtual screening	1129
Ferroptosis	1069	Mycolic acid synthesis	1077		
		proteins		Wavelet denoising	1118