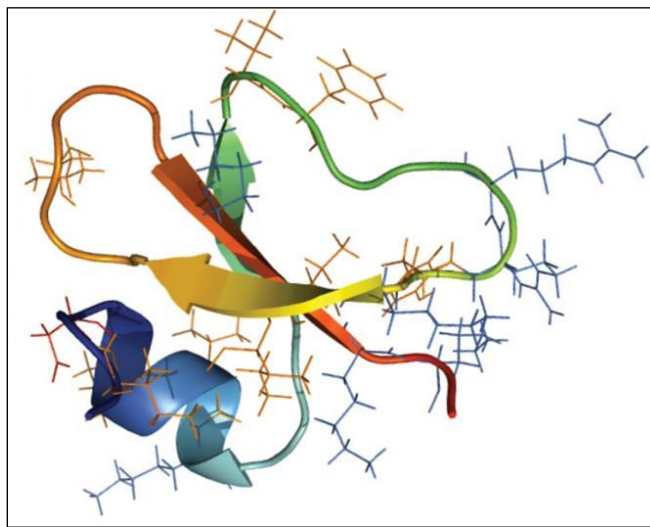


Researchers at ILS, Bhubaneswar have developed plant and bacteria derived Human Beta Defensin-1 (HBD-1) and HBD-2 with broad spectrum antimicrobial activity



The Department of Biotechnology (DBT), Government of India has constantly encouraged scientists, researchers, entrepreneurs etc to develop and commercialize technologies and innovations. The Institute of Life Sciences (ILS), Bhubaneswar is one among the DBT's most reputed institutions with broad vision of carrying out high quality multidisciplinary research in the area of life sciences, agriculture and environment. The institute has achieved excellence in cutting-edge research using state-of-the-art technologies in vector-borne diseases such as malaria, viral infections, cancer biology, allergy and auto-immune disorders, genetic disorders, etc. Researchers have successfully developed multiple technologies and have successfully obtained multiple national and international patents.

The research team comprising Dr. Nrisingha Dey, Dr. Soumitra Maiti, and Dr. Sunita Patro has developed plant and bacteria derived Human Beta Defensin-1 (HBD-1) and Human Beta Defensin-2 (HBD-2) which can be used as effective antimicrobial substances against some of the potent infection causing pathogens. The team has applied (Appl No.1201/KOL/2012 dated 18.10.2012) and obtained Indian patent entitled as 'A method for enhancing antimicrobial

activity of plant and bacteria derived Human Beta Defensin-1 (HBD-1) and Human Beta Defensin-2 (HBD-2)' for the technology under India Patent No. 319161.

They have successfully expressed the Human β -defensin-1 (hBD-1) and -2 (hBD-2) in tobacco plants, and were successful in extracting the bio-active β -defensins. Such defensins have shown antimicrobial activity against number of disease causing pathogens such as *Escherichia coli*, *Staphylococcus aureus*, *Salmonella typhimurium* etc. the team has claimed that based on such findings, both hBD-1 and hBD-2 have emerged as promising antimicrobial peptide based substances for the development of new therapeutics against various infections.

Dr. Bilqeesa Bhat
Project Scientist,
bhat.bilqeesa3000@gmail.com