

InStem scientists find a new way to kill superbugs

New Delhi, January 16: A major medical problem raising the alarm of public health officials worldwide is the increasing number of “superbugs”. These are bacteria and other microbes that have evolved resistance to pre-existing antibiotics. The mortality rate due to infections by these superbugs across the globe is around 2-7% and is 15% in India. With the pipeline of new antibiotics precariously thin, both biotech and academic labs are intensely searching for new ways to combat these drug resistant microorganisms.

Now, a team lead by Colin Jamora in the Inflammation & Tissue Homeostasis theme at the Institute for Stem Cell Science and Regenerative Medicine (inStem) in a collaboration with Unilever have discovered a way to unlock the release of natural substances called antimicrobial peptides (AMPs) from our skin, which can effectively kill the superbugs. The research team found that a protein in the skin called Caspase-8 acts as a brake on the release of AMPs from our skin cells. When they removed Caspase-8 from these cells, they were able to activate the production of AMPs, which can form a protective barrier from bacteria. Their discovery provides new hope that by reducing the amount of caspase-8 in our skin, we can improve protection against bacterial infections for the aged, hospitalized and people with weakened immune systems such as diabetics.

A report on the study has been published in Times of India :

<https://timesofindia.indiatimes.com/india/breakthrough-fighting-superbugs-using-skin-as-shield/articleshow/72398818.cms>