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ASIA EDITION

Inversion of ibuprofen in body helps fight cancer: Study

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Singapore: Scientists at the Department of Pharmacy and Pharmacology, University of Bath, UK, demonstrated that anti-inflammatory drug ibuprofen might stop certain cancers from developing.

Ibuprofen, a member of the family of drugs known as nonsteroidal anti-inflammatory drugs (NSAIDs), is one of the most commonly taken non-prescription drugs alongside paracetamol and aspirin and there is evidence to suggest that long-term users could be better protected against prostate cancer, some colon cancers and several other cancers as well.

Unlike many drugs, ibuprofen can exist in two different forms, known as Rand S. Only the S-form has anti-inflammatory properties whilst the R-form is inactive. However, the body can convert R-ibuprofen into S-ibuprofen through a process known as chiral inversion, something scientists believe may have knock-on benefits in fighting cancer.

This is because the enzyme that performs chiral inversion, alpha-methylacyl-CoA racemase (AMACR), has increased levels in prostate cancer, some colon cancers and several other cancers as well. This latest research hypothesises that the body's processing of the drug in fact reduces the normal activity of the enzyme, which in turn could stop the cancer from developing.

The academic team involved in the study include Dr Matthew Lloyd, Dr Tim Woodman, Dr Andrew Thompson and Professor Mike Threadgill. Commenting on the findings, Dr Lloyd said, "The chiral inversion behaviour of ibuprofen in humans has been known since at least the 1970s. However, it is not until now that the specific proteins that perform the various steps have been identified.

"This study focusses on the final enzyme that produces active ibuprofen, which fights cancer by targeting cyclooxygenase (COX) enzymes. It will also help us understand how ibuprofen fights cancer by targeting AMACR."