

Chemistry Nobel awarded for DNA self-repair mechanisms discovery

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

The 2015 Nobel Prize in Chemistry has been awarded to three researchers for their work on DNA repair.

Tomas Lindahl, Paul Modrich and Aziz Sancar “mapped, at a molecular level, how cells repair damaged DNA and safeguard the genetic information”, says the Royal Swedish Academy of Sciences in Stockholm, which awards the prize.

DNA is not a stable molecule, but slowly decays over time. For life to exist, as Lindahl first realised while working at the Karolinska Institute in Stockholm in the 1970s, there must be repair mechanisms that fight back against this process.

Lindahl, who is regarded as one of the founders of the DNA repair field, chronicled a process dubbed base excision repair, in which specific enzymes recognize, cut out, and patch up bases in the DNA molecule.

Speaking to reporters in Stockholm at the Nobel press conference, Lindahl noted that understanding DNA repair has implications for human health. People with faults in their repair system have an increased risk of developing cancers, because damaging mutations to their DNA can go uncorrected. Cancer cells themselves survive damage by using enzymes to patch up DNA, and there is now interest in therapies that target DNA-repair pathways in tumour cells. “We need DNA repair but we don’t like it that the cancer cells have DNA repair,” Lindahl said.

Read full, original post: [DNA repair sleuths win chemistry Nobel](#)