'Invisible' bacteria dupe the human immune system

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Scientists at the University of York have characterised an important new step in the mechanism used by bacteria to evade our immune system.

It is an ‘invisibility cloak’ which means that bacteria like Haemophilus influenzae, a common cause of ear infections in children, can move about the body without the risk of being attacked by the immune system.

A multidisciplinary research team from the Departments of Biology and Chemistry at York have been studying how bacteria capture the molecule used to make the ‘cloak’, called sialic acid.

The researchers have now discovered an enzymatic activity that helps in the more efficient capture of sialic acids released from our cell surfaces. As well as using the sialic acid to make the ‘invisibility cloak’ other bacteria use similar methods to capture sialic acid as a simple food source, so are literally eating us from the inside!

The research is published in the latest issue of the *Journal of Biological Chemistry*.

Dr Gavin Thomas, of the Department of Biology, who led the research said: “This novel enzyme, as well as other steps required for the formation of the 'invisibility cloak' that we have discovered in York, now offers the chance to develop novel antimicrobials against these bacteria.”

Source: University of York