Statins May Reduce Cancer Risk.

Printed from https://www.cancerquest.org/newsroom/2020/10/statins-may-reduce-cancer-risk on 11/21/2026



Through previous clinical and laboratory studies, researchers have determined that lipids (fats) play a role in cancer. Cholesterol, a common type of lipid, is the target of cholesterol-lowering drugs - the statins. Statins reduce the amount of LDL-cholesterol, a type linked to heart disease, by inhibiting specific enzymes. Researchers already know that statins reduce the risk of cardiovascular events like heart attacks but the potential effects of statins on cancer risk has yet to be explored. Lead author Paul Carter, Cardiology Academic Clinical Fellow at the Department of Health and Primary Care, University of Cambridge, UK is attempting to determine the role of statins in cancer prevention by using human genetics.

For this study, researchers used a technique called 'Mendelian randomization' that allows the researchers to identify genetic combinations that have the same effects as statins. The researchers attempted to find out if genetic combinations that lowered cholesterol would also reduce risk of cancer. Using the UK biobank, a large collection of treatment and diagnoses data, researchers identified associations between genetic variations controlling cholesterol and the risk of cancer for over 360,000 participants. The researchers determined that a statin target, the HMGCR enzyme, was associated with an overall cancer risk. This suggests that using statins to inhibit the enzyme may lower the risk of cancer. Surprisingly, researchers also found that targets of other cholesterol lowering drugs were **not** associated with a risk of cancer. This may be because statin lowers cancer risk through an unknown pathway that is not related to cholesterol.

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