Oral & Gut Microbes Can Inactivate an Antidiabetic Drug

Scientific Achievement
Scientists discovered that some bacteria found in the human mouth and gut can inactivate acarbose, which is a commonly prescribed antidiabetic drug.

Significance and Impact
This study may point to an unanticipated interaction between the human microbiome and a clinically important drug against diabetes.

Research Details
- Found eight microbiome enzymes that inhibit acarbose.
- Used X-ray crystallography at the AMX & FMX beamline at NSLS-II to explore the enzymes’ interaction with acarbose.
- Re-analyzed a clinical study on diabetes drug effectiveness & found that humans with these enzymes benefitted slightly less from the drug than humans that did not possess them.