



De Silva, M., Borges, C., Hingorani, A., Engmann, J., Shah, T., Zhang, X., Luan, J., Langenberg, C., Wong, A., Kuh, D., Chambers, J. C., Zhang, W., Jarvelin, M.-R., Sebert, S., Auvinen, J., UCLEB Consortium, Gaunt, T., & Lawlor, D. (2019). Liver Function and Risk of Type 2 Diabetes: Bidirectional Mendelian Randomization Study. *Diabetes*, 68(8), 1681-1691. Article db181048. <https://doi.org/10.2337/db18-1048>

Peer reviewed version

Link to published version (if available):  
[10.2337/db18-1048](https://doi.org/10.2337/db18-1048)

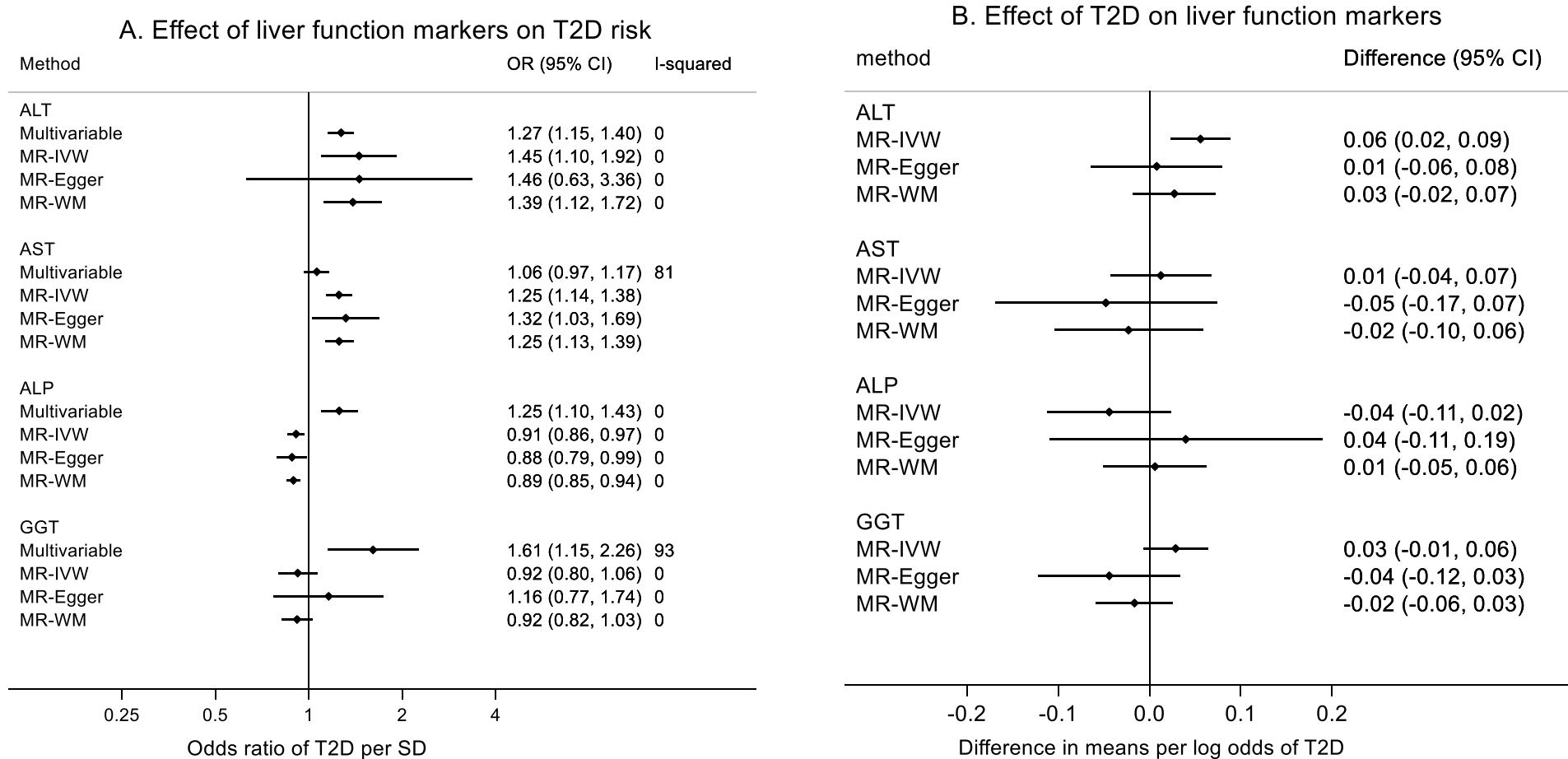
[Link to publication record in Explore Bristol Research](#)  
PDF-document

This is the author accepted manuscript (AAM). The final published version (version of record) is available online via AHA at <http://diabetes.diabetesjournals.org/content/early/2019/05/03/db18-1048> . Please refer to any applicable terms of use of the publisher.

## University of Bristol - Explore Bristol Research

### General rights

This document is made available in accordance with publisher policies. Please cite only the published version using the reference above. Full terms of use are available: <http://www.bristol.ac.uk/red/research-policy/pure/user-guides/ebr-terms/>



**Figure 2.** Multivariable and Mendelian randomization analysis of the effect of liver function on T2D (A) and Mendelian randomization analysis of the effect of T2D on liver function markers (B).

Results from Figure 1A correspond to odds ratio of T2D per unit increase in standardized liver function markers (and 95% confidence interval). Results from Figure 1B correspond to change in standardized liver function markers per unit increase in log odds of T2D (and 95% confidence interval). I-squared indicates between-study heterogeneity and is only presented when estimates for more than one study were available. ALT: alanine aminotransferase; AST: aspartate aminotransferase; ALP: alkaline phosphatase; GGT: gamma-glutamyl transferase; SNPs: single nucleotide polymorphisms; T2D: type 2 diabetes.