Drug screen points toward novel diabetes treatments

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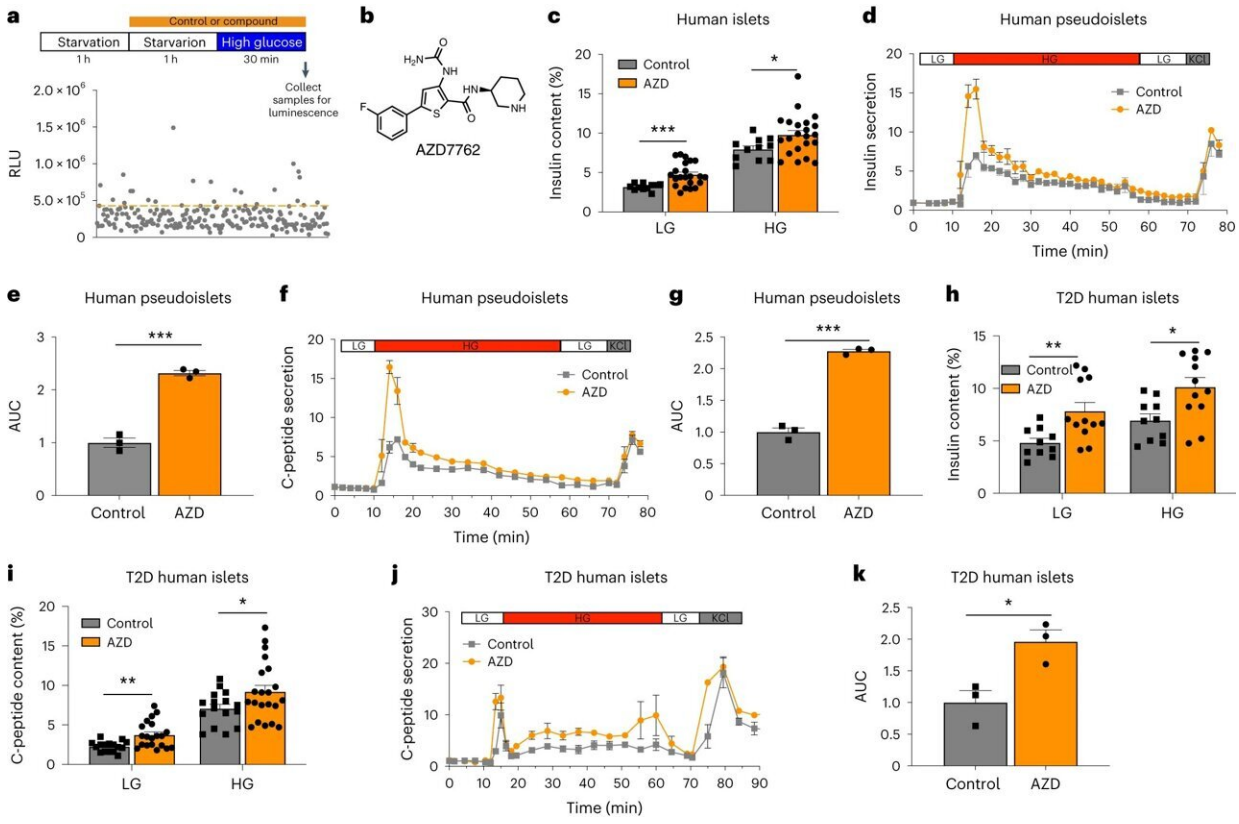

A focused chemical screen identified AZD7762 that increases glucose-stimulated insulin secretion of mouse and human islets. **a**, Schematic diagram of the chemical screen. **b**, Chemical structure of AZD7762. **c**, Static GSIS of intact human islets in the presence of control or 1 μM AZD7762. Low glucose (LG), 2 mM glucose ($P = 0.0001$); High glucose (HG), 20 mM glucose ($P = 0.013$). $n = 11$ (control) and $n = 22$ (AZD7762) biological replicates. **d**,**e**, Dynamic GSIS (**d**) and AUC (**e**) of human pseudoislets in the presence of control or 1 μM AZD776 ($P = 0.0008$). $n = 3$ biological replicates for each group. The data were

normalized to baseline. **f**,**g**, Dynamic GSCS (**f**) and AUC (**g**, $P = 0.0007$) of human pseudoislets in the presence of control or 1 μM AZD7762. $n = 3$ biological replicates. The data were normalized to baseline. **h**, Static GSIS of T2D human islets in the presence of control or 1 μM AZD7762. LG, 2 mM glucose ($P = 0.005$); HG, 20 mM glucose ($P = 0.008$). $n = 10$ (control) and $n = 12$ (AZD7762) biological replicates. **i**, Static GSCS of T2D human islets in the presence of control or 1 μM AZD7762. LG, 2 mM glucose ($P = 0.001$); HG, 20 mM glucose ($P = 0.034$). $n = 16$ (control) and $n = 21$ (AZD7762) biological replicates. **j**,**k**, Dynamic GSCS (**j**) and AUC (**k**, $P = 0.022$) of T2D human islets in the presence of control or 1 μM AZD7762. $n = 3$ biological replicates. The data were normalized to baseline. Data represent the mean ± s.e.m. For **c**, **e**, **g–i** and **k**, P values of figures were calculated by two-sided Student's t-test. Statistical significance: *P