

Technote

R-spondin 1 in pancreatic organoids

Introduction:

Human R-spondin 1 protein (RSP01) is the prototypic member of the R-spondin family. R-spondin 1 is used to potentiate Wnt signalling in many organoid culture systems.

Conditioned media from R-spondin 1 expressing cell lines is a common source of R-spondin 1. However, conditioned media is a major source of intra- and inter-lab variability. Recombinant proteins are a low variability alternative to conditioned media.

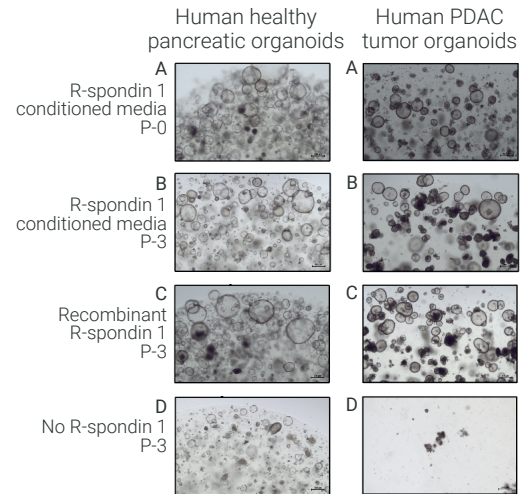
Method:

Healthy human pancreatic organoids and pancreatic ductal adenocarcinoma (PDAC) organoids were cultured in media supplemented with R-spondin 1 and Wnt-3a conditioned media (A). Organoids were assessed over three passages in media supplemented with Wnt-3a conditioned media and either R-spondin 1 conditioned media (B); recombinant protein R-spondin 1 (Qk006) (C); or no R-spondin 1 (D).

Results:

Recombinant R-spondin 1 protein (Qk006) is comparable to R-spondin 1 conditioned media in supporting the growth of pancreatic organoids and PDAC tumor organoids.

Experiments conducted by Dennis Plenker, Ph.D. in the lab of Dr. David Tuveson at Cold Spring Harbor Laboratory.



P-0 indicates the initial start of the culture in full growth media supplemented with R-spondin 1 conditioned media (A). Comparison of pancreatic organoid growth after three passages (P-3) in media supplemented with R-spondin 1 conditioned media (B), recombinant R-spondin 1 (Qk006) (C), or no R-spondin 1 (D).