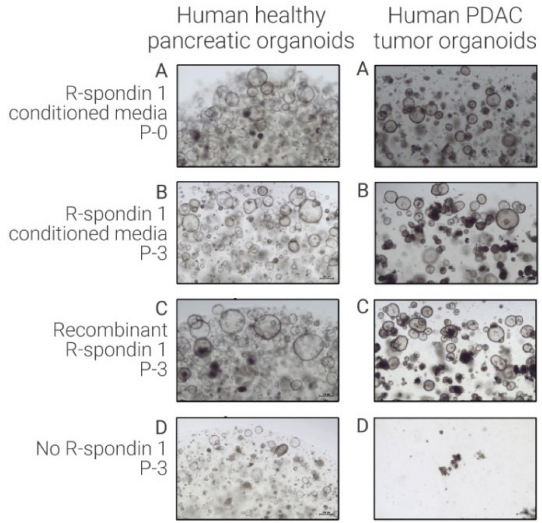
Technote

R-spondin 1 in pancreatic organoids



Comparison between human healthy pancreatic organoids and human PDAC tumor organoids in three culture conditions over three passages. 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).

Introduction:
Human R-spondin 1 protein (RSPO1) is the prototypic member of the R-spondin family. R-spondin 1 is used to potentiate Wnt signaling 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 tumour organoids.

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