Reply to “Precision-cut human liver slice cultures as an immunological platform”

Daria Kartasheva-Ebertz, Sylvie Lagaye, Stanislas Pol

► To cite this version:

Daria Kartasheva-Ebertz, Sylvie Lagaye, Stanislas Pol. Reply to “Precision-cut human liver slice cultures as an immunological platform”. *Journal of Immunological Methods*, 2021, 497, pp.112814. 10.1016/j.jim.2020.112814 . hal-03081814

HAL Id: hal-03081814

<https://hal.science/hal-03081814>

Submitted on 18 Dec 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Distributed under a Creative Commons Attribution - NonCommercial - NoDerivatives| 4.0 International License

Reply to “Precision-cut human liver slice cultures as an immunological platform”

Daria Kartasheva-Ebertz,, Sylvie Lagaye, Stanislas Pol

► To cite this version:

Daria Kartasheva-Ebertz,, Sylvie Lagaye, Stanislas Pol. Reply to “Precision-cut human liver slice cultures as an immunological platform”. Journal of Immunological Methods, Elsevier, 2020, 10.1016/j.jim.2020.112814 . hal-03081814

HAL Id: hal-03081814

<https://hal.archives-ouvertes.fr/hal-03081814>

Submitted on 18 Dec 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Reply to “Precision-cut human liver slice cultures as an immunological platform”

Dear Editor,

Wu X. et al. report their interesting model on the precision-cut human liver slice cultures as an immunological platform (Xu et al., 2018). The model represents a significant progress since the vast majority of studies focusing on liver immunology use mouse models. Animal models are not representative enough of the human liver to confidently reproduce human liver disease and physioathology, including immunology (Delire et al., 2015); an example is the impressive remodeling of extensive fibrosis after bile duct ligation or CCl4 exposure which is not similar in human fibrotic liver. That is why the precision-cut human liver slice model seems to be an appropriate model, which allows to keep the 3D architecture of the tissue and the cellular environment. This is nicely evidenced in the paper (Xu et al., 2018) which draw similar conclusions that we previously reported, namely maintenance of synthesis function and architecture in the ex vivo culture over a two-week period (Lagaye et al., 2012).

On the contrary of what is written, in our previous works on the similar model the culture of human liver slices was 10 and not 5 days. We have now successfully extended the culture to 21 days to study the molecular fibrogenesis induced on normal liver by hepatitis C virus infection, ethanol or palmitate to reproduce the main etiologies of liver disease (Lagaye et al., 2016). By using the same methodology on our ex vivo 21-day model (with 55% viability rate, we characterized intrahepatic immune cells and TH17 cytokines on human liver from normal but also from pathological samples (Kartasheva et al., 2018). In summary, we completely agree that this ex vivo model will allow to

study liver immunology in normal as well as in pathological situations.

References

- Delire, B., Stärkel, P., Leclercq, I., 2015. Animal models for fibrotic liver diseases: what we have, what we need, and what is under development. *J. Clin. Transl. Hepatol.* 3 (1), 53–66.
- Kartasheva, D., Gaston, J., Scatton, O., Vaillant, J.-C., Morozov, V.A., Stanislas, P., Lagaye, S., 2018. Establishment of an ex vivo model of human fibrotic liver slices culture: characterization of intrahepatic immune cells and TH17 cytokines. *J. Hepatol.* 68 (Suppl. 1), S405 (Abstracts of The International Liver Congress 2018, 53rd annual meeting of the European Association for the Study of the Liver April 11–15, 2018, Paris, France).
- Lagaye, S., Shen, H., Saunier, B., Nascimbeni, M., Gaston, J., Bourdoncle, P., Hannoun, L., Massault, P.P., Vallet-Pichard, A., Mallet, V., Pol, S., 2012. Efficient replication of primary or culture hepatitis C virus isolates in human liver slices: a relevant ex vivo model of liver infection. *Hepatology* 56, 861–872.
- Lagaye, S., Gaston, J., Guéchet, J., Massault, P.-P., Vaillant, J.-C., Pol, S., 2016. Human liver fibrogenesis: the proof of concept of HCV-, Ethanol- or Palmitate-induced liver fibrosis in the ex vivo model of human liver slices culture. *J. Hepatol.* 64 (2), S187.
- Xu, X., Roberto, J.B., Knupp, A., Kenerson, H.L., Truong, C.D., Yuen, S.Y., 2018. Precision-cut human liver slice cultures as an immunological platform. *J. Immunol. Methods* 455, 71–79.

Daria Kartasheva^{a,*}, Sylvie Lagaye^a, Stanislas Pol^{a,b,c}

^aINSERM U-1223, Pasteur Institute, Paris, France

^bParis Descartes University, France

^cAssistance Publique - Hôpitaux de Paris, Cochin Hospital, Liver Department, Paris, France

E-mail address: daria.kartasheva@pasteur.fr (D. Kartasheva).

* Corresponding author.