

**Techno Bite**

**Identification of novel fetal liver stromal subsets by Spectral Cytometry, using the autofluorescence parameters on Sony ID7000™.**

**Cedric Ait Mansour**

Global Senior Manager Market Development

Sony Biotechnology Europe

The foetal liver is the main hematopoietic organ during embryonic development. The fetal liver is also the unique anatomical site where hematopoietic stem cells expand before colonizing the bone marrow, where they ensure life-long blood cell production and become mostly resting. The identification of the different cell types that comprise the hematopoietic stroma in the fetal liver is essential to understand the signals required for the expansion and differentiation of the hematopoietic stem cells. We used a panel of monoclonal antibodies to identify fetal liver stromal cells in a 5-laser equipped spectral flow cytometry analyzer. The “Autofluorescence Finder” of SONY ID7000 Spectral Cell Analyser software identified two distinct autofluorescence emission spectra. Using autofluorescence as a fluorescence parameter we could assign the two autofluorescent signals to three distinct cell types and identified surface markers that characterize these populations. We found that one autofluorescent population corresponds to hepatoblasts and cholangiocytes whereas the other expresses mesenchymal transcripts and was identified as stellate cells. Importantly, after birth, autofluorescence becomes the unique identifying property of hepatoblasts because mature cholangiocytes are no longer autofluorescent.

Autofluorescence used as a parameter in spectral flow cytometry is a useful tool to identify new cell subsets that are difficult to analyze in conventional flow cytometry.

**Marcia Mesquita Peixoto, Francisca Soares-da-Silva, Sandrine Schmutz, Marie-Pierre Mailhe, Sophie Novault, Ana Cumano & Cedric Ait-Mansour**

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