



# Microarray profiles of *ex vivo* expanded hematopoietic stem cells show induction of genes involved in noncanonical Wnt signaling

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**ABSTRACT.** The low number of hematopoietic stem cells (HSC) in umbilical cord blood (UCB) is directly related to increased risk of transplant failure. Effective *ex vivo* expansion of HSC has been tried for many years, with conflicting results because of the inability to reproduce *in vitro* HSC proliferation in the same way it occurs *in vivo*. We compared freshly isolated HSC with their expanded counterparts by microarray analysis and detected activation of the noncanonical Wnt (wingless-type MMTV integration site family) pathway. Study of early alterations during *ex vivo* UCB-HSC expansion could contribute to improvement of *ex vivo* expansion systems.

**Key words:** Umbilical cord blood; Hematopoietic stem cell; Microarrays; *Ex vivo* expansion