



発表文献（この研究を発表した雑誌・図書について記入してください。）

雑誌	論文標題 <sup>GB</sup>	TGFβ-FOXO signalling maintains leukaemia-initiating cells in chronic myeloid leukaemia.						
	著者名 <sup>GA</sup>	Naka K et al.	雑誌名 <sup>GC</sup>	Nature				
	ページ <sup>GF</sup>	676~680	発行年 <sup>GE</sup>	2	0	1	0	巻号 <sup>GD</sup>
雑誌	論文標題 <sup>GB</sup>	Regulation of the HIF-1alpha level is essential for hematopoietic stem cells.						
	著者名 <sup>GA</sup>	Takubo K, et al	雑誌名 <sup>GC</sup>	Cell Stem Cell				
	ページ <sup>GF</sup>	391~402	発行年 <sup>GE</sup>	2	0	1	0	巻号 <sup>GD</sup>
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	著者名 <sup>GA</sup>		雑誌名 <sup>GC</sup>					
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欧文概要<sup>EZ</sup>

Hematopoietic stem cells (HSCs) are maintained in an undifferentiated quiescent state within a bone marrow niche. Although it has been demonstrated that appropriate intrinsic and extrinsic controls are required for HSC homeostasis, the underlying molecular mechanisms are still unknown. Previously, we showed that FoxO3a, a forkhead transcription factor that acts as the downstream of the PI3K-AKT pathway, is critical for HSC self-renewal. FoxO3a-deficient HSCs showed increased phosphorylation of p38MAPK, an elevation of ROS, defective maintenance of quiescence, and heightened sensitivity to cell-cycle-specific myelotoxic injury. We observed that FoxO is essential for maintenance of chronic myeloid leukemia stem cells (CML). In addition, it was reported that dysregulation of mTORC1, a downstream target of the PI3K-AKT pathway, also causes abnormality in HSC behavior. Thus, PI3K-AKT signaling plays a pivotal role in maintaining the HSCs and leukemia stem cells.