

New tumor model with stemness and iron control therapy for cancer stem cells

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1. New tumor model with stemness

«Problem of anti-cancer drug development»



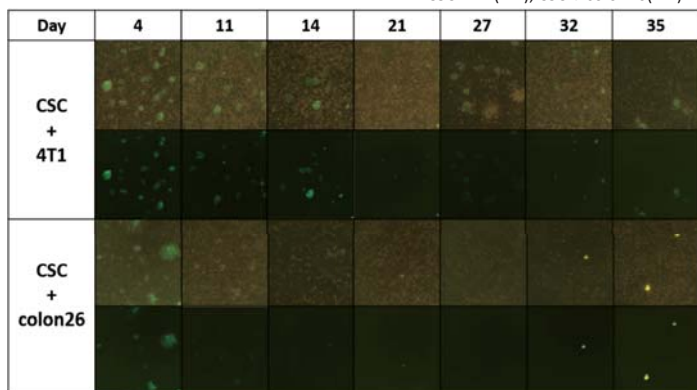
Although the effectiveness of new drug was evaluated in the pre-clinical study, we often experienced that it did not work in the clinical setting.



Stemness?
Heterogeneity??

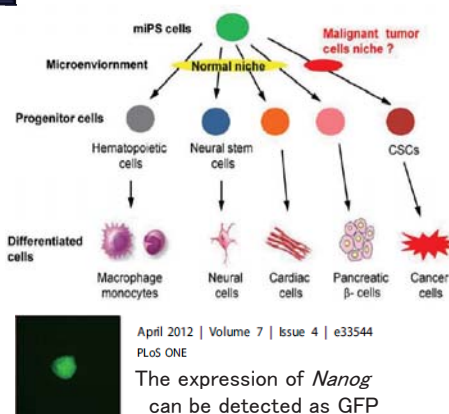
«in vitro co-culture model»

CSC+4T1(4:1), CSC+colon26(1:1)

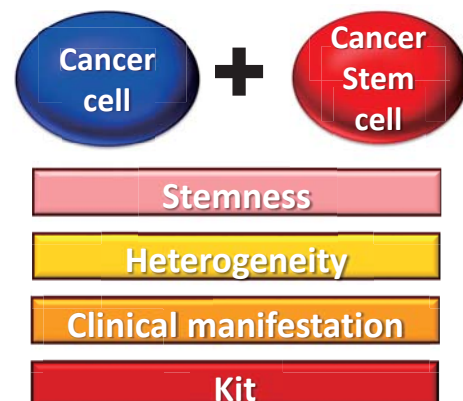


Stemness was maintained over one month in the co-culture condition

«CSCs model, miPS-LLCcm»



«Concept»

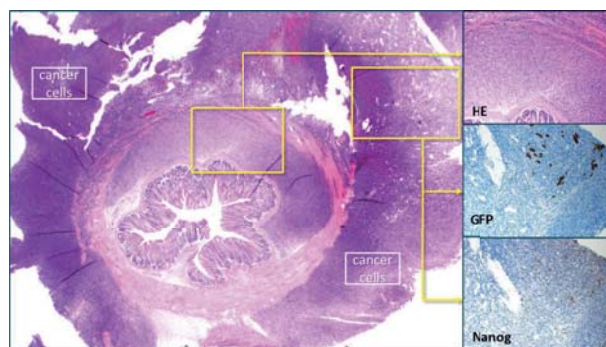


«in vivo co-injected orthotopic tumor model»

miPS-LLCcm + Colon26

Patent pending
2015-85851
2015/4/20

2014
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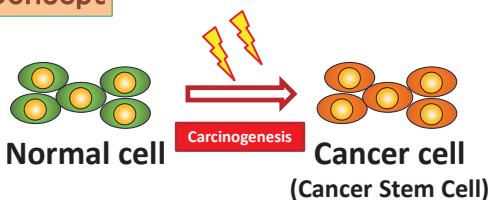
Co-injected orthotopic tumor was also maintained stemness and heterogeneity

miPS-LLCcm (15×10^5) + Colon 26 (15×10^5) were co-injected into the submucosal layer of rectum. Tumor was surgically collected 19 days after injection.

2. Iron control therapy for cancer stem cells

Concept

Iron overload



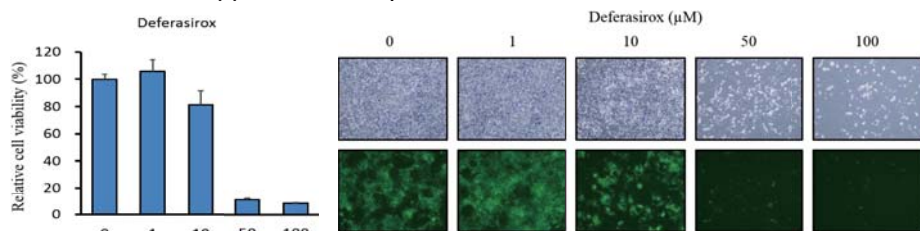
Iron overload is known to induce carcinogenesis.

Iron can be a novel therapeutic target of cancer stem cells?

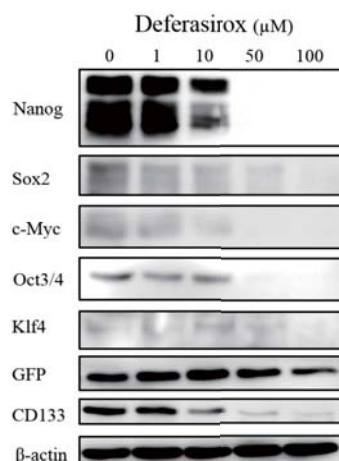
Iron chelator suppressed the tumor growth and stemness!

Patent pending 2015-197598 2015/10/5

«Deferasirox suppressed the proliferation of cancer stem cells»



«Deferasirox suppressed some stemness markers»



«Ordinary anti-cancer drug did not suppress the stemness markers»

