Osteosarcoma : searching for new treatment options

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For the thesis

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1. Abrogation of Chk1 signaling using clinically relevant drugs may be combined with chemotherapy to more effectively treat osteosarcoma. **This thesis**

2. Depletion of Bak in osteosarcoma cells induces altered mitochondrial distribution, decreased proliferation, and autophagy. **This thesis**

3. MEK1/2 inhibition is a candidate approach to treat osteosarcomas harboring high ERK activity. **This thesis**

4. Dasatinib selectively inhibits activity of the Src/Fak signaling complex in osteosarcoma cells and may be combined with chemotherapy to minimize osteosarcoma metastasis. **This thesis**

5. Cell migration is an important property of cancer cells also in the context of tumor growth. **Waclaw *et al*. *Nature.* 2015 Sept;525(7568):261-64**

6. The fact that a strong correlation is observed for each genomic perturbation between cell lines and cancer tissue, indicates that the cancer cell lines are relevant models for identifying novel therapies. **Goodspeed *et al. Mol Cancer Res.* 2016 Jan;14(1):3-13**

7. 3D cell culture systems overcome many of the limitations of traditional two-dimensional (2D) monolayer cell culture systems by mimicking more closely the complex cellular heterogeneity and interactions and tumor microenvironmental conditions. **Thoma *et al. Adv Drug Deliv Rev.* 2014 Apr;69-70:29-41.**

8. Perhaps the greatest challenge for the future will be developing effective treatment options for patients with osteosarcoma with advanced disease at diagnosis, whose outlook remains grim. **Kansara *et al*. *Nat Rev Cancer*. 2014 Nov;14(11):722-35**

9. Even the smallest pre-clinical experiments to identify avenues to combat cancer, together will bring important large steps for improved clinical treatment of cancer.

10. Careful planning is crucial for any screen.

11. The secret of a good experiment is being patient.

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