

Jason Berman and Poul Sorensen-Round 14 (Ewings 1)

Elucidation of YB-1 as a metastasis driver through angiogenic mechanisms in Ewing family tumours using zebrafish and mouse models

Funded in partnership with the Ewings Cancer Foundation of Canada, Childhood Cancer Canada Foundation and the Coast-to-Coast Against Cancer Foundation

Publications

1. Veinotte CJ, Dellaire G, **Berman JN**, "Hooking the big one: the potential of zebrafish xenotransplantation to reform cancer drug screening in the genomic era", *Disease Models & Mechanisms*, Jul 2014 7: 745-75.
Open Access Article: <http://dmm.biologists.org/content/7/7/745.full>
2. El-Naggar AM, Veinotte CJ, Cheng H, Grunewald TG, Negri GL, Somasekharan SP, Corkery DP, Tirode F, Mathers J, Khan D, Kyle AH, Baker JH, LePard NE, McKinney S, Hajee S, Bosiljcic M, Leprivier G, Tognon CE, Minchinton AI, Bennewith KL, Delattre O, Wang Y, Dellaire G, **Berman JN**, **Sorensen PH**. Translational Activation of HIF1 α by YB-1 Promotes Sarcoma Metastasis. *Cancer Cell* 2015 May 11;27(5):682-97. doi: 10.1016/j.ccell.2015.04.003. PMID:25965573

Posters and Presentations

2015

1. Veinotte CJ, Melong N, El-Naggar E, Crompton B, Dellaire G, Stegmaier K, **Sorensen PHB**, **Berman JN**. "Using zebrafish to investigate molecular players influencing Ewing sarcoma proliferation and metastasis," Canadian Cancer Research Conference, Montreal, QC, November 2015
2. Evolution of the zebrafish as a preclinical cancer model - from bedside to tankside and back again," University of Basel, Basel, Switzerland, June 2015
3. **Berman JN**. "Hook, line and sinker: How the zebrafish has evolved into a comprehensive preclinical model for pediatric oncology applications," Keynote Paul Grundy Lecture, Visiting Professor, iHOPE Research Day Stollery Children's Hospital, Division of Hematology/Oncology, University of Alberta, Edmonton, Alberta, Canada, April 2015
4. "Evolution of the zebrafish as a preclinical cancer model- from bedside to tankside and back again," Oncology Seminar Series, Visiting Professor, University of Ottawa, Ottawa, Ontario, Canada, March 2015

2014

5. **Sorensen PHB**. University of Michigan Cancer Biology Graduate Program Seminar Series, University of Michigan. 'Selective mRNA translation and the tumor cell stress response'. University of Michigan, Ann Arbor, MI, Oct. 22, 2014
6. Veinotte CJ, Crompton B, Melong N, Fraser K, **Sorensen PB**, Dellaire G, Stegmaier K, **Berman JN**, "Using Zebrafish Xenotransplantation to Evaluate Anti-Cancer Drug Efficacy: Examining the Impact of Focal Adhesion Kinase Inhibition on Ewing's Sarcoma Cell Proliferation and Metastasis" Poster 11th International Conference on Zebrafish Development and Genetics, Madison, WI, June 2014.
7. **Berman JN** Tankside to Bedside: Revolutionizing preclinical drug discovery in cancer using the zebrafish model", 31st Annual Meeting of the Canadian Biomaterials Society, Canada, Nova Scotia, Halifax June 2014
8. **Sorensen, PHB**. 1st International Symposium on Stress-Associated RNA Granules in Human Disease and Viral Infection. 'The YB-1 RNA binding protein is a critical regulator of stress granule formation'. Dalhousie Univ, Halifax, NS. June 9, 2014

9. **Sorensen, PHB.** American Associate for Cancer Research Annual Meeting 2014. 'Searching for novel drivers of metastatic disease in high-risk childhood sarcomas'. San Diego, CA. April 9. 2014

2013

10. El-Naggar A, Veinotte C, Tognon C, Cheng H, Somasekharan S, Wang Y, **Berman J, Sorensen P.** "YB-1 contributes to sarcoma metastasis via translational activation of HIF1 α " The 6th EMT (Epithelial-Mesenchymal Transition) International Meeting TEMTIA-VI, Alicanté, Spain, November 2013 (poster presentation).
11. **Berman JN.** Living in a Fishbowl: Exposing unique opportunities afforded by the zebrafish as a human cancer model", Canadian Cancer Research Conference, Canada, Ontario, Toronto, November 2013
12. **Sorensen, PHB.** Rett Nearburg International Ewing Sarcoma Symposium V. 'Cellular stress leads to selective and acute synthesis of stress-adaptive proteins'. San Diego, CA. Nov 6 - 9, 2013
13. **Sorensen, PHB.** American Associate for Cancer Research Special Conference: Pediatric Cancer at the Crossroads: Translating Discovery into Improved Outcomes. 'Searching for drivers of metastasis in high-risk childhood sarcomas'. San Diego, CA. Nov 3 – 6, 2013
14. **Berman JN, Corkery D, Veinotte C, Bentley V, Rajan V, Prykhozhiy S, Forrester AM, Smithen D, El-Naggar A, Thompson A, Weng A, Sorensen PB, and Dellaire G.** "Personalized Cancer Therapy: A Xenograft Platform Identifies Novel Therapeutic Compounds in Leukemia and Targets for Prevention of Metastasis in Ewing Sarcoma" Zebrafish Disease Models 6, Murcia, Spain, July 2013 (oral presentation).
15. El-Naggar A, Veinotte C, Tognon C, Cheng H, Somasekharan S, Wang Y, **Berman J, Sorensen P.** "YB-1 Contributes to Sarcoma Metastasis via Translational Activation of HIF1 α " Canadian Student Health Research Forum (CSHRF), Winnipeg, Canada, June 2013 (poster presentation -Gold category poster prize).
16. **Berman JN, Veinotte C, Corkery D, Bentley V, Thompson A, El-Naggar A, Weng A, Sorensen PB, and Dellaire G.** "From Fins to Pharma: The zebrafish as an emerging preclinical model to personalize childhood cancer therapy" Paediatric Cancer Research at the Interface, Vienna, Austria, June 2013 (invited keynote address)
17. El-Naggar A, Veinotte C, Tognon C, Cheng H, Somasekharan S, Wang Y, **Berman J, Sorensen P.** "YB-1 contributes to sarcoma metastasis via translational activation of HIF1 α ". Ninth AACR-Japanese Cancer Association Joint Conference: BREAKTHROUGH IN BASIC AND TRANSLATIONAL CANCER RESEARCH. Maui, HI, USA, February, 2013 (poster presentation)
18. "Zebrafish xenografts: A novel in vivo platform for drug discovery in Ewing's sarcoma", Rett Nearburg International Ewing's Sarcoma Symposium V, United States, California, San Diego Main Audience 2013

2012

19. **Sorensen, PHB.** **Yb-1 is a novel hypoxic response factor that facilitates sarcoma metastasis.** CTOS (Connective Tissue Oncology Society), Prague, Nov 14 – 18, 2012
20. **Sorensen, PHB.** International Pediatric Pathology Association (IPPA), Advanced course in Pediatric Pathology. "'Drivers of Metastasis in High-Risk Childhood Sarcomas'. Jerusalem, Israel. Oct 12 - 18, 2013
21. **Sorensen, PHB.** 'Searching for drivers of metastasis in high-risk childhood sarcomas' ESF-EMBO Symposium Molecular Biology and Innovative Therapies in Sarcomas of Childhood and Adolescence. 29 September - 4 October 2012, Poland
22. **Berman JN, Corkery D, Veinotte C, Balci TB, Forrester AM, Thompson A, Sorensen PB, Weng A, and Dellaire G.** "A zebrafish xenograft platform as an in vivo tool for drug screening and personalized cancer

therapy" Personalized Cancer Care: Risk prediction, early diagnosis, progression and therapy resistance, Oslo, Norway, September 2012 (poster presentation)