

BBGS503 Zhang Lectures (Cancer Epigenetics)**Lecture 3 – Feb 13th**

- Introduction
 - Leukemia types
 - AML and leukemia stem cells
 - Leukemia fusion proteins
- Mechanisms of leukemogenesis
 - RAR fusion proteins
 - PML-RAR t(15;17)
 - PLZF-RAR t(11;17)
 - Basis of retinoic acid therapy and its differential outcomes in t(15,17) and t(11,17) leukemia
 - AML1-ETO t(8;21)
 - E2A-Pbx1 t(1;19)
- Leukemogenic mechanisms of PML-RAR, PLZF-RAR, AML1-ETO and E2A-PBX1

Lecture 4,5 – Feb 14-15th

- Introduction
 - Epigenetic biology
 - Involvement in cancer
- Mechanisms
 - Histone modification
 - Active marks
 - Repressive marks
 - DNA modification
 - Involvement in gene silencing
- Cancer epigenetics
 - Epigenetic changes in cancer
 - HDAC and DNMT inhibitors
- Genomics technology
- Online resources