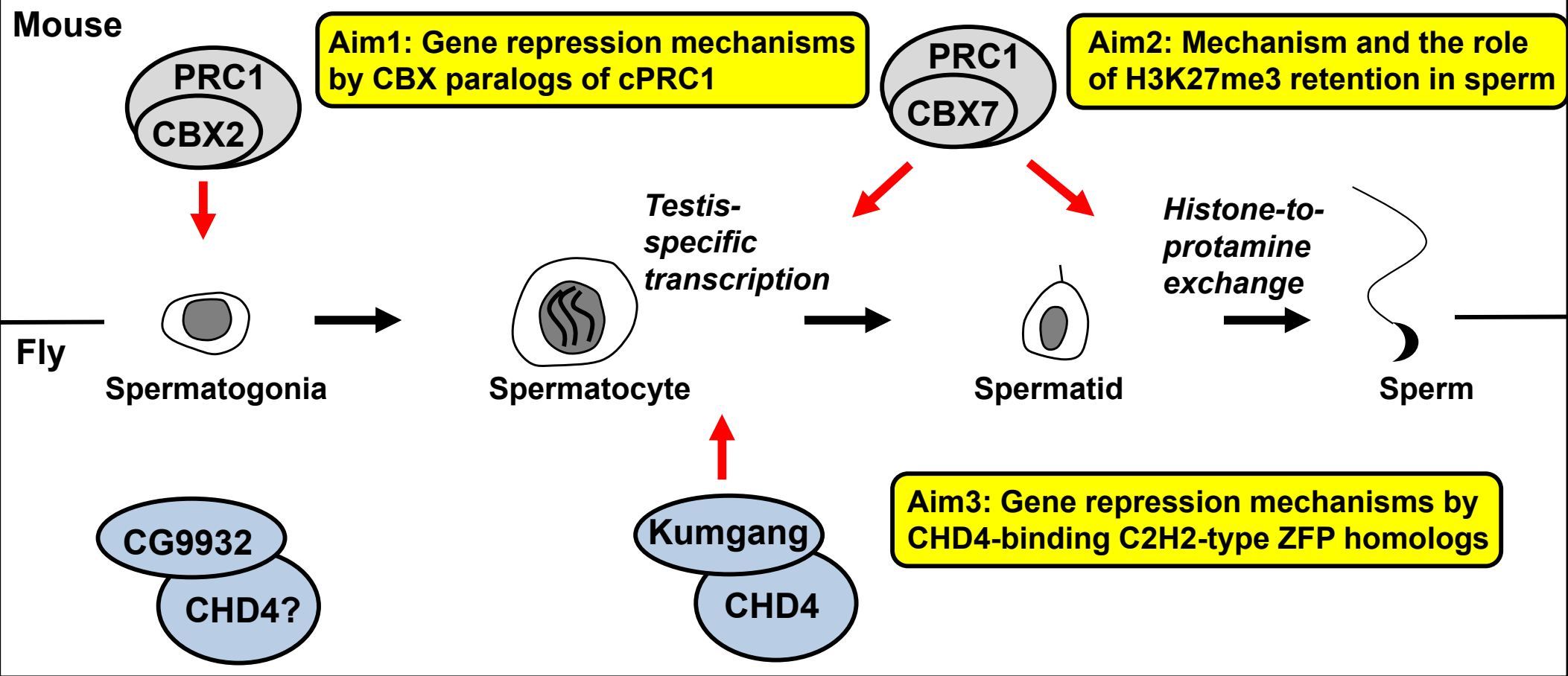


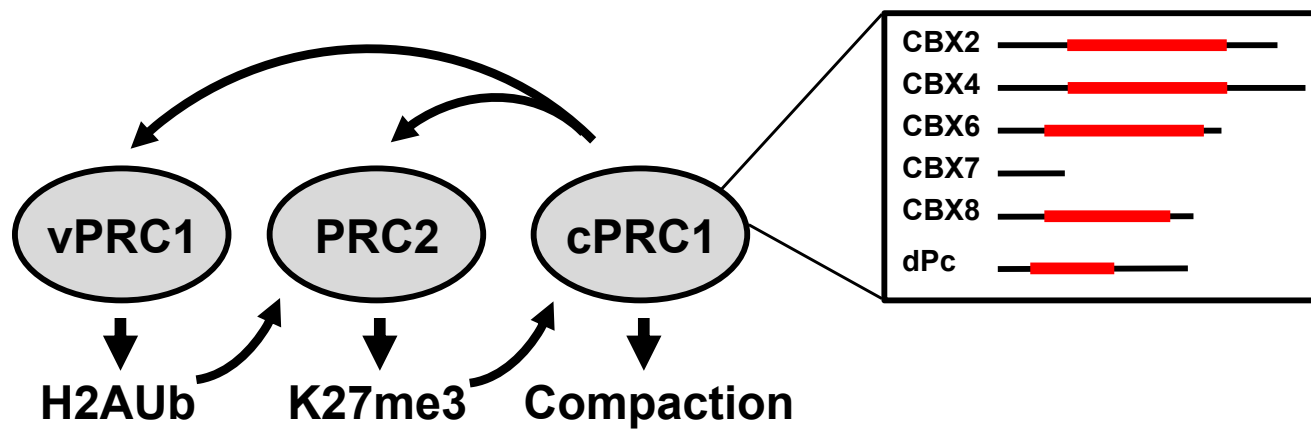
How to block aberrant transcription?

Choosing right promoters

by cell type-specific chromatin modifying complexes



Aim1. Gene repression mechanism by CBX paralogs of cPRC1



Q) Determinants of gene repression?

Q) Why CBX7 but not other CBX?

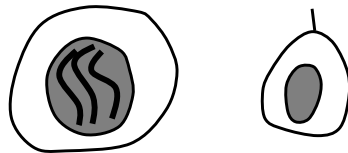
Wild type

Cbx7^{-/-}

vPRC1-cUbMut

Cbx7^{-/-}; rescue-CBX7-dTAG

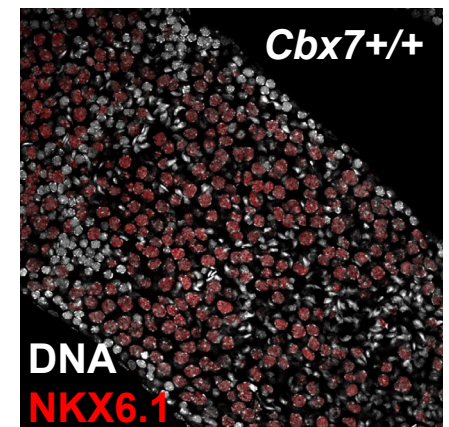
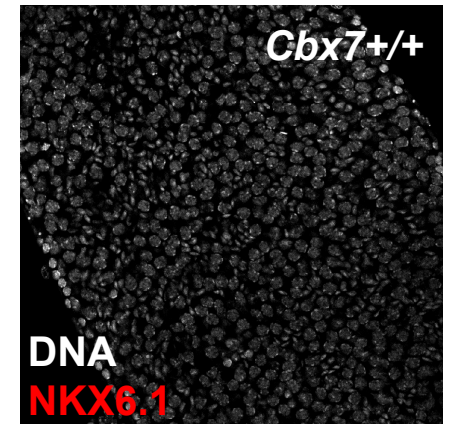
Cbx7^{-/-}; rescue-CBX2-dTAG

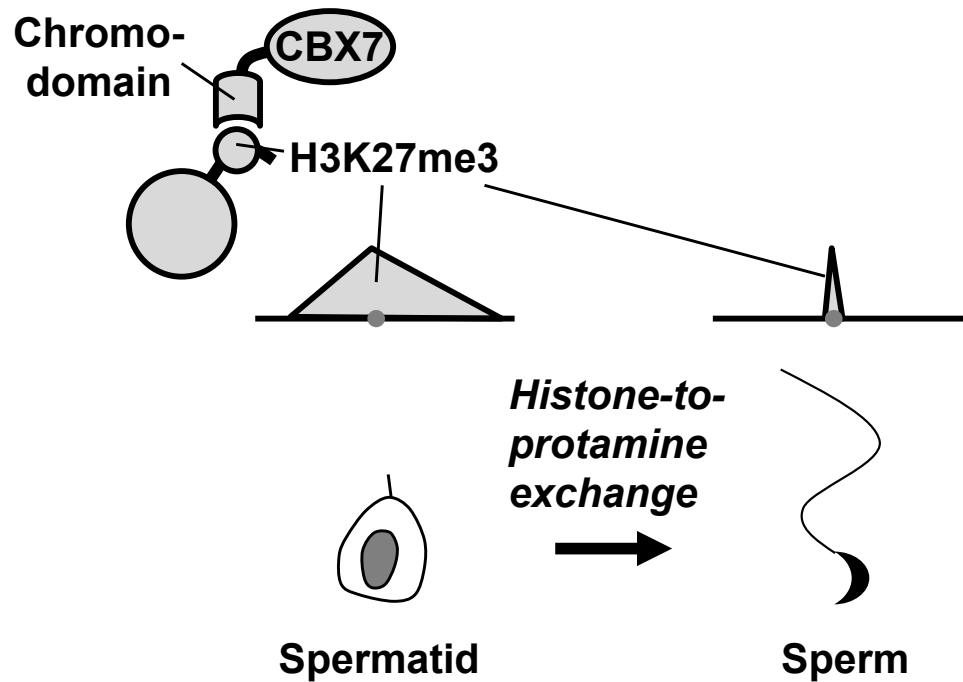


Measure genome-wide:

vPRC1, *PRC2*, *cPRC1*,
H2AUb, H3K27me,
Compaction

Analyze cellular phenotypes





WT versus *Cbx7*^{-/-}

H3K27me3 histone retention in sperm?
Pre-implantation development
& gene expression?

H3K27me3 binding protein in spermatids?

H3K27me3
peptide  **X ?**