

GENETICS



mutations



inherited

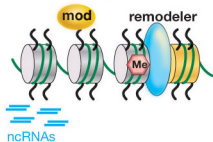
germ line

species

EPIGENETICS



alterations



stable?

soma

variability

Figure 3. Genetics Versus Epigenetics

GENETICS: Mutations (*red stars*) of the DNA template (*green helix*) are heritable somatically and through the germ line. *EPIGENETICS*: Variations in chromatin structure modulate the use of the genome by (1) histone modifications (*mod*), (2) chromatin remodeling (*remodeler*), (3) histone variant composition (*yellow nucleosome*), (4) DNA methylation (*Me*), and (5) noncoding RNAs. Marks on the chromatin template may be heritable through cell division and collectively contribute to determining cellular phenotype.