

EPIGENETIC MECHANISMS

are affected by these factors and processes:

- **Development** (in utero, childhood)
- **Environmental chemicals**
- **Drugs/Pharmaceuticals**
- **Aging**
- **Diet**

HEALTH ENDPOINTS

- **Cancer**
- **Autoimmune disease**
- **Mental disorders**
- **Diabetes**

CHROMOSOME

CHROMATIN

DNA

METHYL GROUP

DNA methylation

Methyl group (an epigenetic factor found in some dietary sources) can tag DNA and activate or repress genes.

EPIGENETIC FACTOR

HISTONE TAIL

GENE

HISTONE TAIL

HISTONE

DNA inaccessible, gene inactive

DNA accessible, gene active

Histones are proteins around which DNA can wind for compaction and gene regulation.

Histone modification

The binding of epigenetic factors to histone “tails” alters the extent to which DNA is wrapped around histones and the availability of genes in the DNA to be activated.