

Epigenetics

Genome: All the organisms' genetic material (hardware)

Histones: The spools that dna is wound around (knob)

Identical twins can differ from one another due to epigenetics.

- Methyl group can fix to genes, inhibiting their function (switch)
- Methyl groups are instructions made from carbon and hydrogen
- Other types grab the proteins called histones, and wrap tighter or looser
- This happens in each genome... called EPIGENOME

Epigenome is like software that tells what cells what kind of cells they should be. Tells genome what to do. Does not change DNA, decides how much or whether some genes are expressed.

- Silence some cells, exhibit others
- Some kinds of cancer can be triggered by epigenetic tags
- Drugs can reverse epigenetic tags
- Changes subtly throughout life
- Bad epigenetic info CAN be relayed
- Genes can be controlled by epigenomes
- As twins age, their epigenetics change drastically, especially due to lifestyle.
- Harder to fix genes than replace epigenetic tags
- You have a responsibility for your genome, pass it on to children...