Zebrafish model of human melanoma reveals new cancer gene.

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Gene expression in each individual cell by is controlled by altering the structure of the DNA. One major way is altering its degree of coiling; uncoiled DNA is available to be copied into RNA but tightly coiled DNA is not. It would be like unwinding string from spool of thread.

BRAF is the most commonly mutated gene in melanoma. Scientists have used zebrafish to observe the impact of this gene on melanoma development, and they have discovered that samples with mutated BRAF genes have more histone methyltransferase, an enzyme that adds methyl groups to DNA and causes it to coil more tightly. This discovery identifies the gene that encodes the enzyme, SETDB1, as an oncogene directly involved in melanoma development.

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