C19MC

The C19MC MicroRNA cluster is a microRNA cluster consisting of 46 genes. These 46 genes encode 59 mature MicroRNAs.

The C19MC MicroRNA cluster is only found in primate (including human) genomes and expresses MicroRNAs almost exclusively in the placenta, but also in testis, embryonic stem cells, and some tumors.[1] They are also expressed highly in trophoblast-derived vesicles, including exosomes.

C19MC MicroRNAs have been shown to be among the most expressed MicroRNAs in the human placenta and are also found in the serum of pregnant women.

Trophoblast cells, found in the human placenta, produce many different types of microRNAs (MicroRNAs). MicroRNAs play a role in placental development or physiology.

Some placental cell lines derived from trophoblasts also express C19MC MicroRNA, including the choriocarcinoma lines JEG3, JAr, and BeWo, but not HTR8/SVneo.

The presence of C19MC amplification results in a diagnosis of embryonal tumor with multilayered rosettes (ETMR), C19MC-altered. In the absence of C19MC amplification, a tumor with histological features conforming to ETANTR/ ETMR should be diagnosed as embryonal tumor with multilayered rosettes, NOS, and a tumor with histological features of medulloepithelioma should be diagnosed as medulloepithelioma (recognizing that some apparently bona fide medulloepitheliomas do not have C19MC amplification).