

Are meiosis and oncogenesis two sides of the same?

Reproductive factors make sure that a baby receives half of its genetic material, DNA, from the mother (through the egg) and half from the father (through the sperm). This means that the baby contains a mixture of both their genes. Reproductive proteins should be present only in organs that take part in reproduction and have no other known roles in the body. Unexpectedly, we recently found that some of these proteins are also found in cancers. The reason for this is that a lot of treatments turn these reproductive factors back on by accident. Furthermore, when the levels of reproductive proteins are high, patients have a more aggressive disease and die earlier. We will identify how are reproductive proteins turned back on in cancer. Furthermore, we will determine if switching reproductive factors back off could reinstate response to therapy prolonging patients life and limiting side effects of chemotherapy.