Cyclin-Dependent Kinase (CDK) Inhibitors in Advanced or Metastatic Breast Cancer

What are cyclin-dependent kinases (CDKs)?

CDKs are a family of proteins or enzymes found in all cells in the body.

The Importance of CDKs

CDKs are important in controlling the normal life cycle of cells as they grow and divide into new cells.

Genetic changes to CDK4 and CDK6 have been found in many cancer cells, including breast cancer.

Effects of Genetic Changes in Cancer Cells

Cancer consists of cells that grow, divide, and spread too quickly without control. In many cancer cells, the CDK4/6 enzymes are over-activated by abnormal genetic changes. When CDK4/6 enzymes are over-activated it causes the cancer cell to divide too quickly, creating a tumor.

CDK4/6 inhibitors block the activity of CDK4/6 enzymes, which results in slowing down cell division and growth.

Therapeutic Targeting of CDK4/6

Targeting CDK4/6 enzymes may play a role in ensuring that cancer cells do not continue to replicate uncontrollably, spreading cancer.

Resources