1.5.1 Signal transduction inhibitors (Kinase inhibitors)

Multikinase inhibitors work by interfering with proteins called Kinases. Kinases are enzymes of importance in regulating cells function and growth. Activation of these kinases by Mitogen or other factors sends signals to the cells to divide and make new cells. Kinase inhibitors block these signals and affect the cancer's ability to divide as shown in (figure 1) (Rong *et al.*, 2009).

Some kinds of Kinases stimulate cells to make new blood vessels. Formation of new blood vessels is called angiogenesis. Cancer cells need to make new blood vessels so that they can grow and spread (Zhang *et al.*, 2009).

kidney cancer showed higher than normal amount of a type of kinase particularly that of vascular endothelial growth factor (VEGF). VEGF stimulates the production of new blood vessels, and so helps the cancer to grow (Ellis and Hicklin 2008).

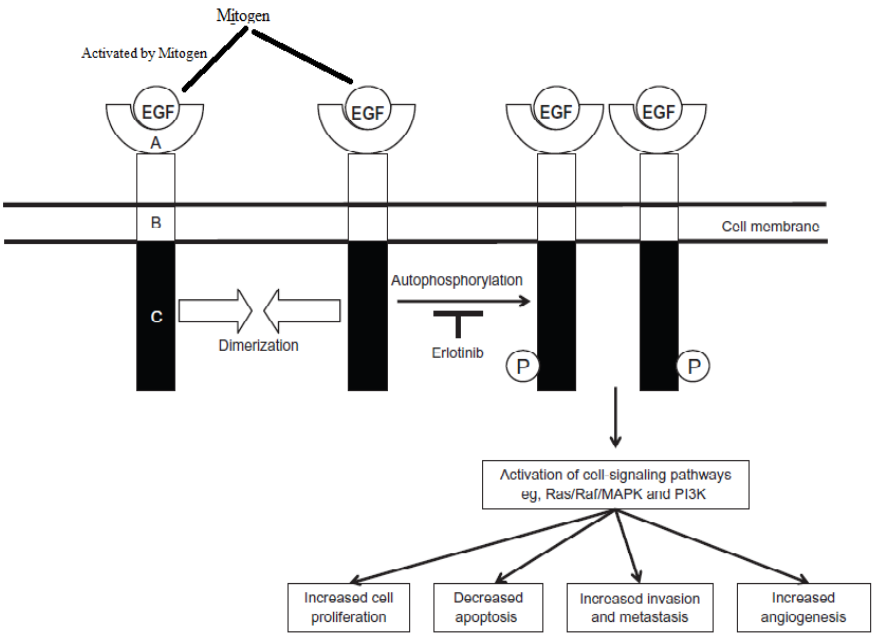

Figure 1: Various effects of EGF receptor activation by Mitogen and other factors.