PI3K and Cancer Treatment:

1. We can **target PI3K,** however, all currently widely available pharmacological PI3K inhibitors inhibit **all isoforms of PI3K** and are therefore toxic in vivo.
2. Efforts are in progress to create isoform-specific inhibitors in the pharmaceutical industry, with the hope that these drugs will be **isoform-specific and more efficacious.**
3. A current PI3K-**delta** inhibitor that is approved by the FDA is an ATP competitive kinase inhibitor that is used to treat patients with relapsed follicular B-cell non-Hodgkin lymphoma and relapsed small lymphocytic lymphoma.
4. It is used in combination with rituximab to treat patients with chronic lymphocytic leukaemia.

5. Additionally, we can **target m-TOR**, i.e. Rapamycin or Rapalogs (Rapamycin analogues).
6. One drug that binds to the FK506-binding protein 12, thus inhibiting m-TOR is approved for treatment to patients with advanced or metastatic renal carcinoma.
7. It's been approved by the FDA but **not** NICE because the benefits of the drug did not outweigh the cost of the medication.