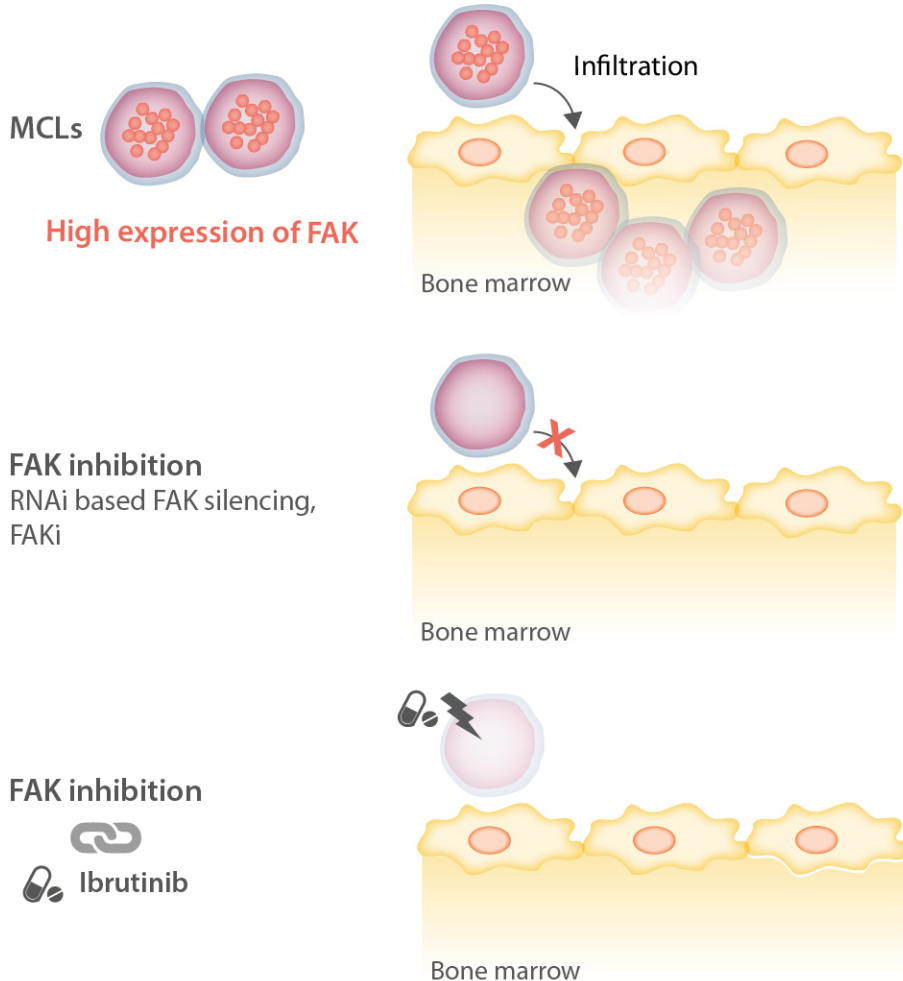


# Highly synergistic effect of focal adhesion kinase inhibition with ibrutinib to overcome drug resistance in mantle cell lymphoma



MCL-stromal cells interaction

**FAK activation**

AKT, p42/44, NF- $\kappa$ B activation

**Survival, proliferation and drug resistance**

Blockage of targeted cell invasion

**no FAK activation**

Inactivation of signaling cascade

**Apoptosis**

**Combine treatment to overcome drug resistance of MCL**