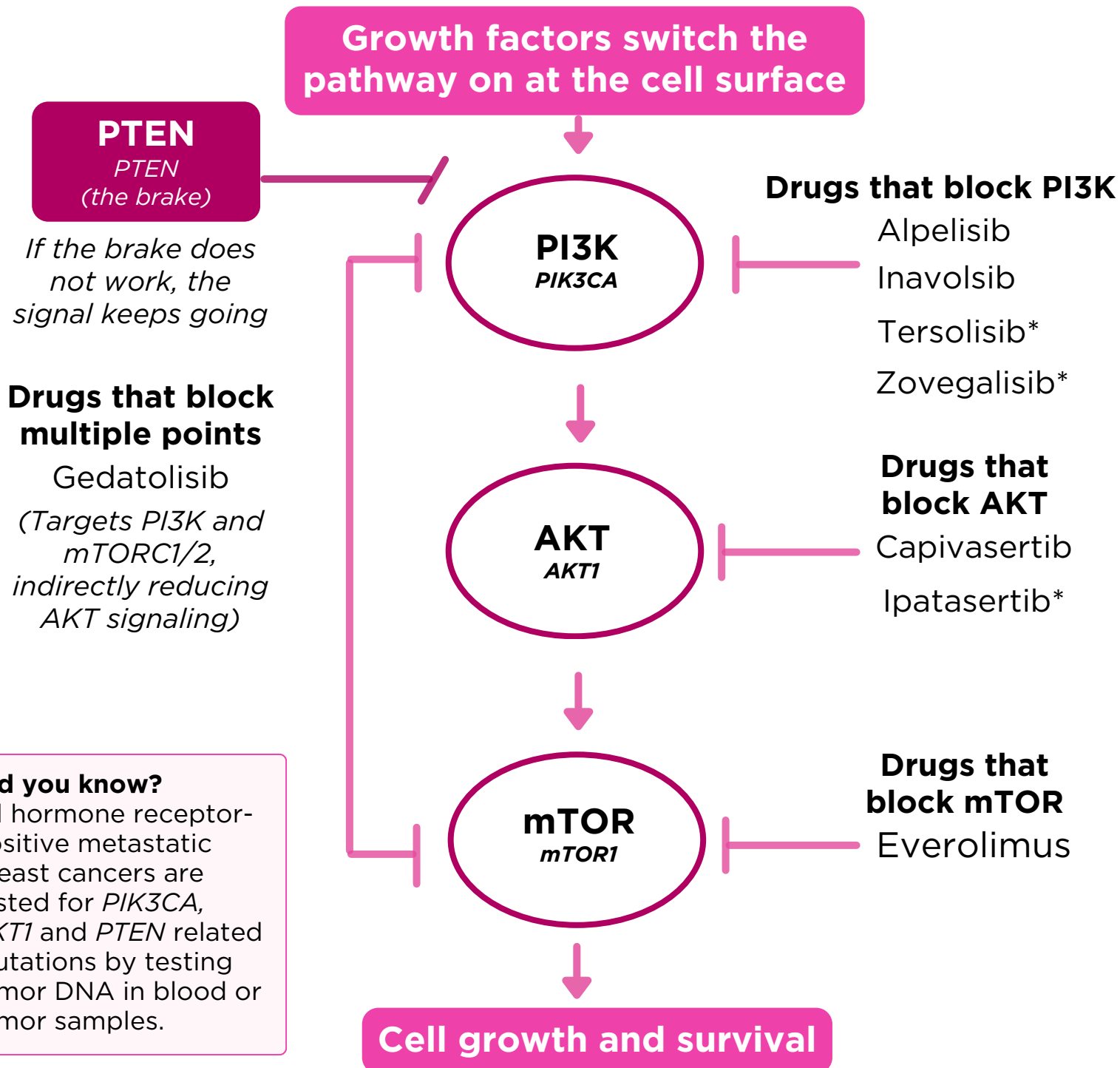


PI3K Pathway in Metastatic Breast Cancer

The PI3 kinase (PI3K) pathway is a cell signaling pathway found in all cells in the body. It can become overactivated in cancer cells, leading to excessive growth. Overactivation can be caused by mutations in the proteins that make up the PI3K pathway. The pathway can also become overactivated as cells become resistant to hormone therapy. The PI3K pathway can be targeted with drugs, and these drugs can be used to treat some metastatic, hormone receptor-positive breast cancer.



*In clinical trials, not yet FDA-approved

Drugs that target the PI3K pathway in metastatic breast cancer

FDA-approved drugs for certain metastatic breast cancers

	Alpelisib <i>Piqray</i>	Capivasertib <i>Truqap</i>	Everolimus <i>Afinitor</i>	Gedatolisib <i>Revtorpyk</i>	Inavolisib <i>Itovebi</i>
How is it given?	Pill	Pill	Pill	IV infusion	Pill
Combined with:	Fulvestrant*	Fulvestrant*	Hormone therapy	Fulvestrant*, with or without palbociclib**	Hormone therapy, palbociclib**
Tumor test result needed	<i>PIK3CA</i>	PIK3CA, or AKT1, or PTEN	None	PIK3CA mutation not detected	<i>PIK3CA</i>
Most common side effects	High blood sugar, diarrhea, rash, decreased white and red blood cell count, nausea, fatigue, decreased appetite, mouth sores	Diarrhea, rash and other skin problems, high blood sugar, decreased white and red blood cell count, nausea, fatigue, vomiting, mouth sores	Mouth sores, infections, rash, fatigue, diarrhea, decreased appetite, nausea, high blood sugar, decreased white and red blood cell count	Mouth sores, high blood sugar, decreased red blood cell count, nausea, rash, fatigue, vomiting, diarrhea	Decreased white and red blood counts, high blood sugar, mouth sores, diarrhea, fatigue, nausea, rash, decreased appetite

Notes: This is not a complete list of side effects. These treatments are used at different times in the metastatic breast cancer setting (first-line, second-line, etc.).

*Fulvestrant is a hormone therapy
** Palbociclib is a CDK4/6 inhibitor

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Drugs that target the PI3K pathway in metastatic breast cancer

Investigational drugs in Phase 3 Clinical trials, not yet FDA-approved			
	Ipatasertib	Tersolisib	Zovegalisib
How is it given?	Pill	Pill	Pill
Combined with:	Fulvestrant*	CDK4/6 inhibitor, hormone therapy	Fulvestrant*
Tumor test result needed	Being tested in tumors without mutations	Being tested for <i>PIK3CA</i>	Being tested for <i>PIK3CA</i>
Most common side effects	Diarrhea, nausea, high blood sugar, fatigue, vomiting, rash	Nausea, fatigue, diarrhea, Low white blood cell count	High blood sugar, nausea, fatigue, increases creatinine, diarrhea

*Fulvestrant is a hormone therapy

All breast cancer treatments have some short-term physical side effects. However, everyone is different. Before any treatment begins, talk with your health care team about possible side effects and ways to deal with them. The good news is most side effects can be managed and many can be prevented. Even so, it's normal to worry about them.

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