Uncovering the role of a progesterone receptor in breast cancer migration and metastasis

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Abstract

Breast cancer affects 1 in 8 women worldwide. While early diagnosis and treatment have improved, recurring cancer is difficult to control, resulting in a poor survival rate. A recent study focused on better understanding the role of a hormone signaling component in breast cancer progression. Progesterone receptor membrane component 1 (Pgrmc1) is a non-classical progesterone receptor with diverse roles in metabolism and steroidogenesis. Using a mouse model of breast cancer, researchers examined tumor development and lung metastasis in mice with or without Pgrmc1. They found that while silencing Pgrmc1 did not affect tumor size at 13 weeks, mice lacking Pgrmc1 survived significantly longer than wild-type mice. Mice without Pgrmc1 also exhibited a lower degree of lung metastasis and lower expression of migration and metastasis markers and in breast cancer cell lines, silencing Pgrmc1 reduced the migration rate. While further study is needed to determine whether this pathway is similar in humans, these results suggest that Pgrmc1 may be an ideal target for developing breast cancer treatment.