Cancer metastasis is a fundamental therapeutic challenge. We have previously described motile sperm domain-containing protein 2 (MOSPD2) as a key regulator of monocyte migration in vitro. Since metastasis also implicates cancer cell chemotaxis, we assessed the potential role of MOSPD2 in promoting breast cancer migration and metastasis in vitro and in vivo.

The prevalence of MOSPD2 was evaluated by IHC in tissue microarray representing different stages of invasiveness in breast cancer. MOSPD2 abundance was scored according to the staining intensity on a scale from 0 to 3. MOSPD2 expression was silenced in MDA-231 breast cancer cell line using CRISPR-CAS9 (CRISPR) lentiviral particles. Cells were then tested by in vitro trans-well assay for migration towards EGF, as well as for lung dissemination following inoculation in vivo of SCID mice. For mechanism studies, EGF-induced signaling events were analyzed.

MOSPD2 expression level correlates with breast cancer invasiveness.

MOSPD2 is essential for EGF-induced signaling pathways in MDA-231 cells

MOSPD2 promotes metastasis of MDA-231 breast cancer cells in vivo

**REFERENCES**