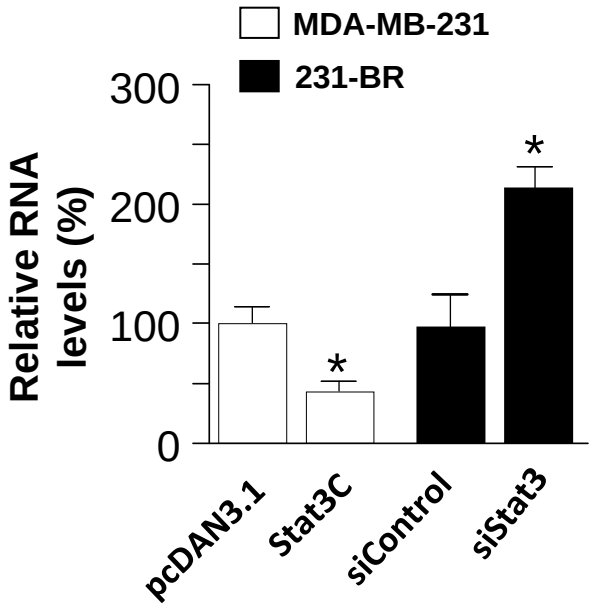

Figure S1. Caveolin-1 mRNA expression was determined by qRT-PCR in MDA-MB-231 and 231-BR cells transfected with pcDNA3.1 (3 µg) or pStat3C (3 µg); or nontargeting siRNA (siControl; 100 nM) or Stat3 siRNA (siStat3; 100nM) for 48 h.

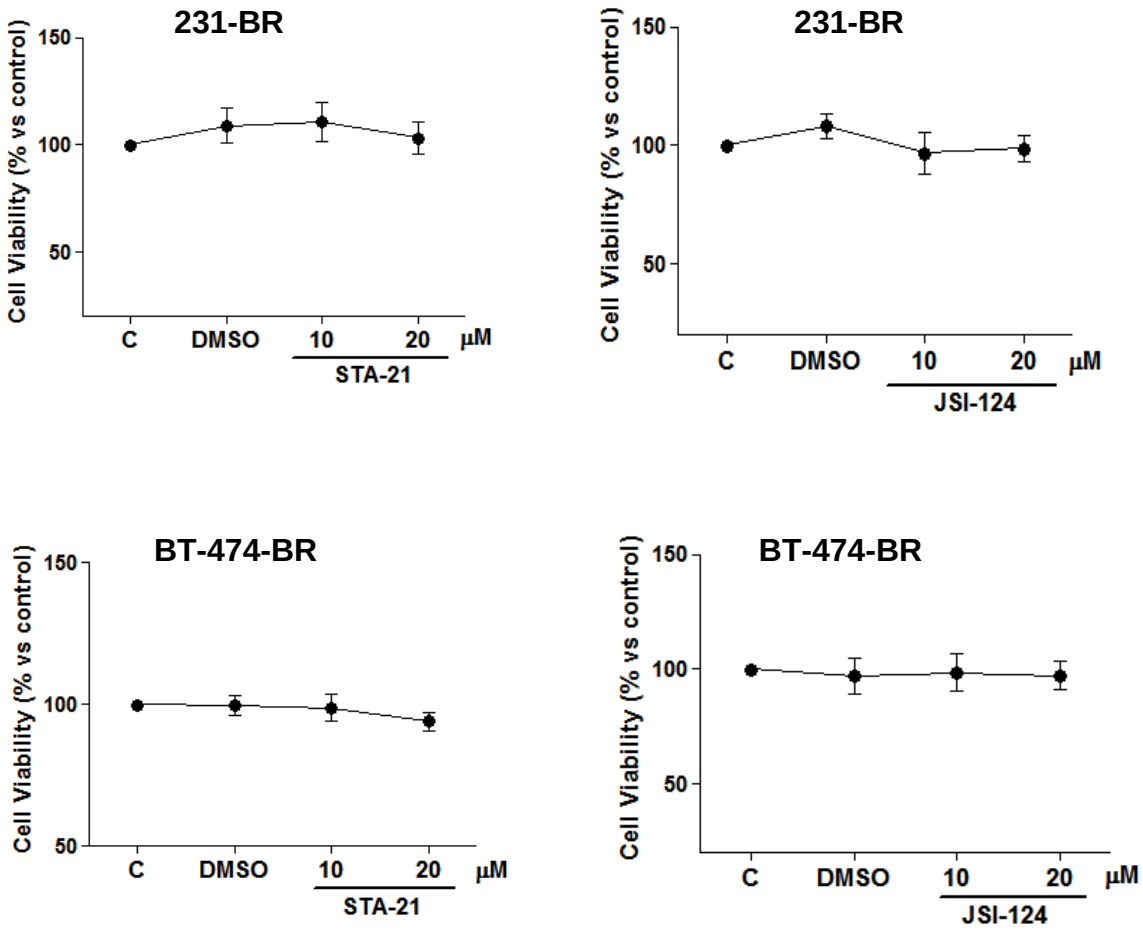

Figure S2. Cytotoxic effects of Stat3 inhibitors. 231-BR and BT-474-BR cells were treated with DMSO, 10 or 20 μM STA-21, or 10 or 20 μM JSI-124 for 24 h. The cell viability was determined by MTT assay and expressed as % of controls without any manipulation (C). Note that the Stat3 inhibitors did not produce significant cytotoxicity at the given concentrations used for analyzing promoter regulation.

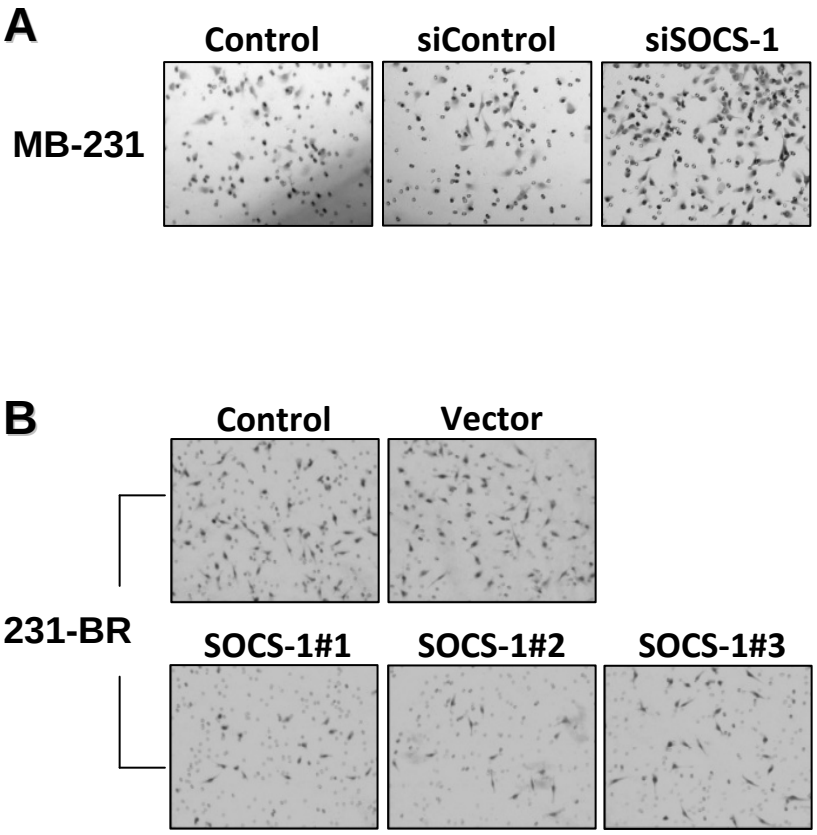

Figure S3. A. MDA-MB-231 cells (control) or MDA-MB-231 cells were transfected with siControl or siSOCS-1 (100nM) for 48 h. Then the invasive ability of the cells was determined by the invasion assay. **B.** The invasive ability of 231-BR (control), 231-BR-vector and 231-BR-SOCS-1 cells was determined by the invasion assay. Representative photomicrographs of tumor cells that invaded through a Matrigel-coated filter were taken and shown.

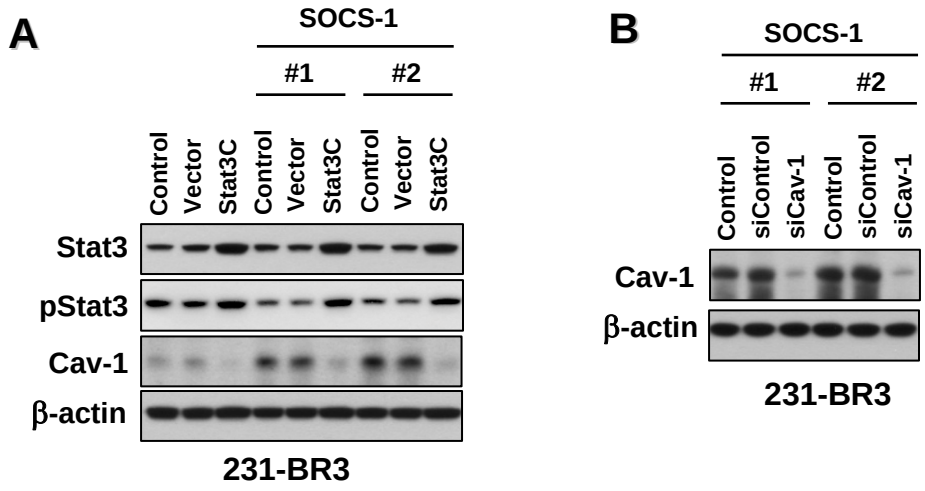

Figure S4. **A**. 231-BR-vector or 231-BR-SOCS-1 (#1 and #2) cells were transfected with Stat3CA (3μg) or pcDNA3.1 vector (3μg) for 48 h. The expression levels of Stat3, pStat3, caveolin-1, and β-actin protein were determined using immunoblotting. **B.** 231-BR-SOCS-1 (#1 and #2) cells were transfected with siRNAs (siControl or siCav-1, 100nM) for 48 h. The expression level of caveolin-1 and β-actin protein were determined using immunoblotting.

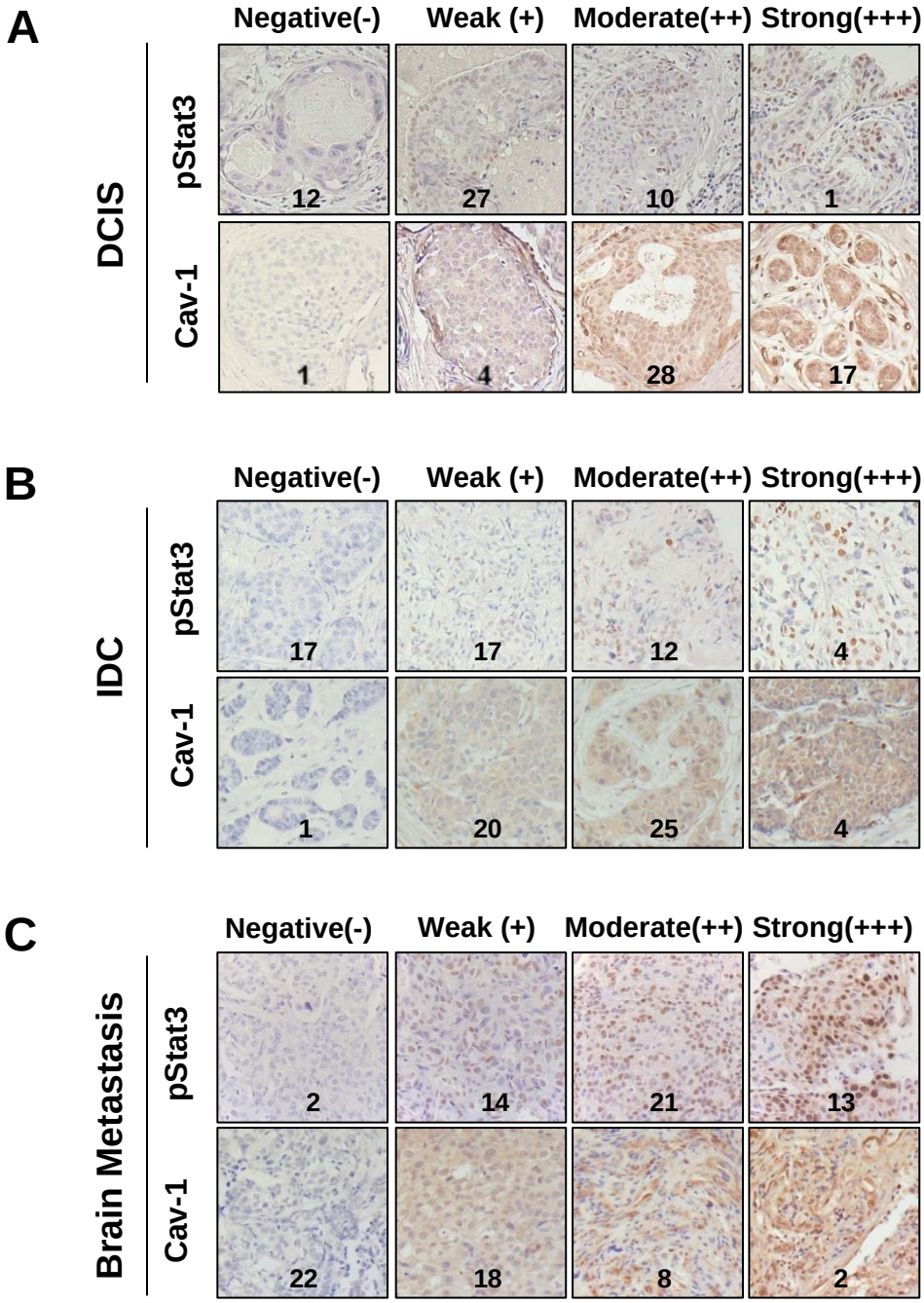

Figure S5. Increased expression of pStat3 correlates with decreased expression of caveolin-1 in human breast cancer brain metastases. IHC staining for pStat3 and caveolin-1 in 50 human breast DCIS (A), 50 human breast IDC (B) and 50 breast cancer brain metastases specimens (C). Representative photos of negative, weak, moderate or strong staining were shown, the numbers of cases in each staining categories were shown at the bottom of the representative photos.