**Supplementary Figure Legends**

**Figure S1.** Copy number alterations of c-Myb in human breast cancer.A, Percentage of c-Myb amplifications in different human cancers. Data were analyzed by cBioportal from the TCGA dataset. B, Overall survival analysis of patients with breast cancer with or without c-Mybamplification and gain in the TCGA breast cancer dataset.

**Figure S2.** c-Myb is critical for metastatic traits in breast cancer cells.A, Transwell migration assay of control and c-Myb overexpressing MCF10A-M2 cells. B, fold changes of migrated cell numbers, mean ± s.d. . Result is from one experiment in triplicate ; the experiment was performed twice with similar results.

**Figure S3.** c-Myb co-localization with β-catenin. HeLa and Cos7 cells were transfected with HA-c-Myb and Flag-β-catenin SA (a stable mutant) then stained with HA and Flag antibodies or DAPI. Confocal images display the nuclear staining of c-Myb (green) and the stableβ-catenin (red). scale bar: 10 μm.

**Figure S4.** Axin2 is critical for c-Myb mediated breast cancer progression in a zebrafish model. A, qPCR analysis of *c-Myb* and *Axin2* mRNA expression in control, c-Myb depleted, and c-Myb depleted and Axin2 re-expressed MDA-MB-231 cells; mean ± s.d. of triplicates. B, Representative overview images at 6 days post implantation (dpi) of zebrafish injected with mCherry labeled MDA-MB-231 cells shown under A. Arrows indicate metastatic tumour cells, scale bar: 500 μm. C, Detailed images of the tail fin. Arrows indicate metastatic tumour cells, scale bar: 100 μm. D, Percentage of the zebrafish embryos displaying tumour progression to the tail fin \*\*\**p*<0.001. E, Left , qRT-PCR analysis of *β-catenin* mRNA expression level in MDA-MB-231 cells with control or β-catenin shRNA knockdown. Right, Chromatin IP (ChIP) of *Axin2* promoter-bound c-Myb in control or β-catenin shRNA knockdown MDA-MB-231 cells. qPCR was performed with primers for the c-Myb binding region 1. Mean ± s.d. of triplicates

**Figure S5.** c-Myb positively regulates breast cancer metastasis. A, qPCR of *c-Myb* mRNA expression in MDA-MB-231 BM cells transduced with control or c-Myb shRNAs; mean ± s.d. of triplicates. B, Cell proliferation *in vitro* of control and c-Myb depleted MDA-MB-231 BM cells. C, qPCR of *c-myb* and *slug* mRNA expression in 4T1 cells transduced with control or c-myb shRNA; mean ± s.d. of triplicates. The experiment was repeated twice. D, Effect of c-myb depletion on the *axin2* mRNA expression in 4T1 cells upon recombinant Wnt 3a treatment (100ng/ml) for 4h. mRNA levels of *axin2* were analysed by qPCR and normalized to *gapdh*; mean ± s.d. of triplicates. The experiment was repeated twice. E, Representative bright field images of isolated lungs from mice at 21 days after orthotopic injection of c-Myb or c-Myb depleted 4T1 cells. Arrows indicate lung metastatic nodules.

**Figure S6.** c-Myb controls cancer cell migration. A, Upper panel: representative IHC images of c-Myb staining in HEK293T cells with or without ectopic c-Myb expression. Lower panel: representative IHC images of Axin2 staining in MDA-MB-231 cells with or without ectopic Axin2 expression. Objective: 25×. B, qPCR analysis of *Axin2* mRNA expression in control or c-Myb deficient MDA-MB-231 cells with or without 10ng/ml IL-1β treatment; mean ± s.d. of triplicates. The experiment was repeated twice. C, Transwell migration of control or c-Myb depleted MDA-MB-231 cells treated with or without 10ng/ml IL-1β or 10ng EGF in the presence of 3% serum for 16 h. Left, representative images of migrated cells. Right, fold changes of migrated cell numbers, mean ± s.d.. \**p*<0.05, \*\* *p*<0.01, \*\*\**p*<0.001 as indicated. D, Transwell migration of control, Axin2 or β-catenin shRNA knockdown MDA-MB-231 cells treated with 10ng/ml IL-1β in the presence of 3% serum for 16 h. Upper, representative images of migrated cells. Lower, fold changes of migrated cell numbers, mean ± s.d. of triplicates. (IL-1β treated) con sh: Axin2 sh, \*\**p*<0.01; (IL-1β treated) con sh: β-catenin sh \**p*<0.05.

**Figure S7.** c-Myb has no significant effect on survival and cell cycle of ER- breast cancer cells. Representative FACS profiles of propidium iodine (PI) stained control MDA-MB-231, MCF10-M2 and 4T1 cells and cells with, stable *c-Myb*/*Axin2* knockdown or ectopic expression. The experiment was performed twice with similar results.