Experimental protocol Animals Groups Experiments MBs Tumor-bearing mice MBs USMB (n = 48)US 1.0 MPa Tumor 2.0 MPa (right hind limb) B-mode and CEUS imaging 3.0 MPa Thigh muscles (pre, post-0 h) 4.0 MPa H&E staining, IHC (post-0 h) skin 5.0 MPa n =6 per group 4.0 MPa 5.0 MPa Appropriate pressure Control B-mode and CEUS imaging (pre, post-0 h) Single treatment H&E and TUNEL staining, (post-0 h) Multiple treatments Tumor-bearing mice (n = 36)Control Tumor volume measurement Single treatment (days 1, 5, 10, 15 post treatment) Multiple treatments

Figure S1. Illustration of the experimental protocol. H&E, hematoxylin and eosin. IHC, immunohistochemical. TUNEL, erminal deoxynucleotidyl transferase dUTP nick-end labeling.