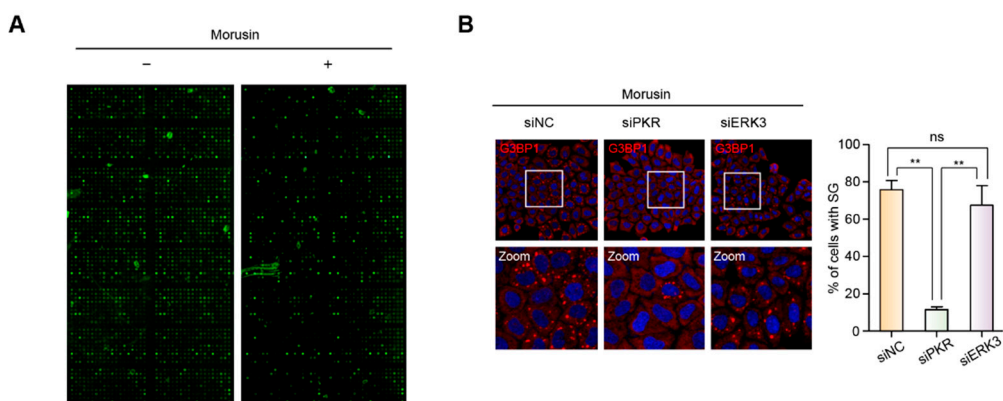
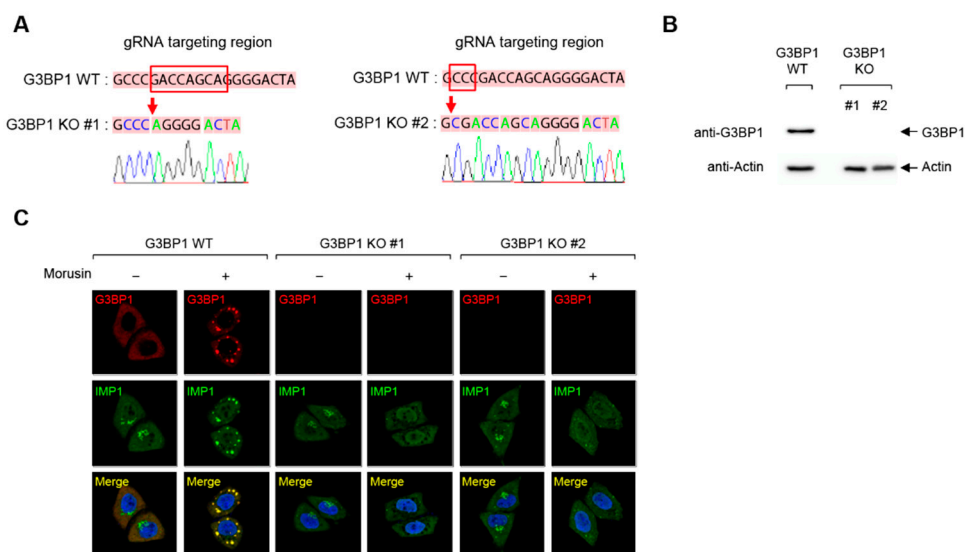


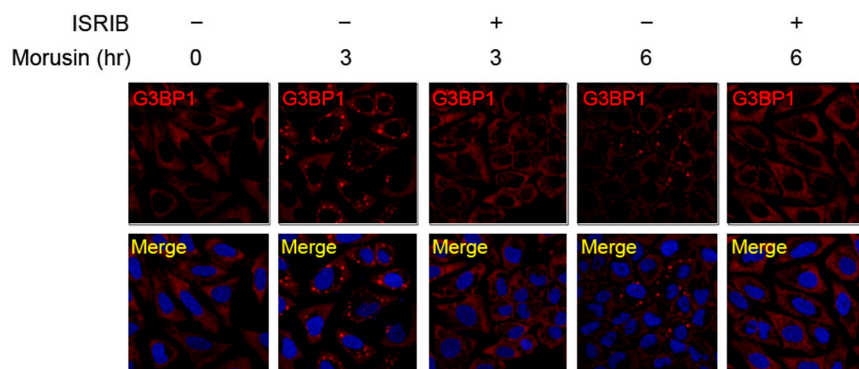
Supplementary



**Figure S1.** Phosphoprotein profiling of morusin-treated cells. (A) Raw data of phospho-specific antibody array in HeLa cells treated with DMSO or 30  $\mu$ M morusin for 8 h. (B) A representative image of immunostaining of G3BP1 in HeLa cells transfected with siERK3 or siPKR, and treated with DMSO or 30  $\mu$ M morusin for 3 h. Scale bar represents 50  $\mu$ m.



**Figure S2.** Stress granule formation is impaired in G3BP1 KO cell lines. (A) Validation of G3BP1 KO HeLa cell lines mediated by the CRISPR-cas9 system (#1 and #2) by sequencing the genomic region targeted by G3BP1 gRNAs. (B) Immunoblot image of G3BP1 in WT or G3BP1 KO HeLa cells. (C) A representative image of immunostaining of G3BP1 in WT or G3BP1 KO HeLa cells treated with DMSO or 30  $\mu$ M morusin for 3 h. Scale bar represents 20  $\mu$ m.



**Figure S3.** Morusin-induced stress granules require phosphorylated eIF2 $\alpha$ -mediated translation repression. A representative image of immunostaining of G3BP1 in U2OS cells treated with DMSO or 30  $\mu$ M morusin for 3 or 6 h, in the presence or absence of 200 nM ISRIB. Scale bar represents 50  $\mu$ m.