

Supplementary

Table S1 Primer sequences of the mRNA used in this study

| mRNA | Primer sequences |
|-------|--|
| cGAS | Forward: ACATGGCGGCTATCCTTCTCT |
| | Reverse: GGGTTCTGGGTACATACGTGAAA |
| STING | Forward: CCAGAGCACACTCTCCGGTA |
| | Reverse: CGCATTGGGAGGGAGTAGTA |
| GAPDH | Forward: GCACCGTCAAGGCTGAGAAC |
| | Reverse: TGGTGAAGACGCCAGTGGA |
| MST1 | Forward: GGAGACGGTACAGCTGAGGA |
| | Reverse: CAACAATCTGGCCGGTCTCT |
| FOXO1 | Forward: TCGTCATAATCTGTCCCTACACA |
| | Reverse: CGGCTTCGGCTCTTAGCAAA |
| ISD | Forward: TACAGATCTACTAGTGATCTATGACTGATCTGT ACATGATCTACA |
| | Reverse: TGTAGATCATGTACAGATCAGTCATAGATCACT AGTAGATCTGTA |

cGAS, cyclic GMP-AMP synthase; STING, stimulator of interferon genes; MST1, mammalian sterile 20-like kinase 1; LATS1, large tumor suppressor kinase 1; YAP, Yes-associated protein; FOXO1, forkhead box1.

Table S2 Demographic and clinical features of patients with active RA

| Demographic and clinical features | Values |
|-------------------------------------|------------|
| Age, years (mean ± SD) | 54.73±7.14 |
| Female, n (%) | 16 (80) |
| Male, n (%) | 4 (20) |
| Disease duration, years (mean ± SD) | 6.03±7.36 |
| Rheumatoid factor-positive, n (%) | 19 (95) |
| Anti-CCP positive, n (%) | 17 (85) |
| DAS28 (CRP) (mean ± SD) | 5.57±1.46 |
| Previous medications, n (%) | |
| Prednisone (<10 mg/d) | 8 (40) |
| Methotrexate | 6 (30) |
| Leflunomide | 1 (5) |
| Sulfasalazine | 1(5) |
| Hydroxychloroquine | 4 (20) |

Table S3 shRNA target sequences

| shRNA | Sequences |
|-----------|-----------------------|
| shcGAS-1 | CAACTACGACTAAAGCCATTT |
| shcGAS-2 | GATGCTGTCAAAGTTTAGGA |
| shcGAS-3 | CGTGAAGATTCTGCACCTAA |
| shSTING-1 | CTGCTCGTAGCGCCGGGCTT |
| shSTING-2 | CAGCATTACAACAACCTGCTA |
| shSTING-3 | GACCGGTGACCATGCTGGCAT |

shRNA, short hairpin RNA.

Table S4 Sequences of siRNA

| siRNA | Sequences |
|-----------|----------------------|
| siGAS-1 | GTAAGGAATTTCTGACAAA |
| siGAS-2 | CTAGCAACTTAATTGACAA |
| siGAS-3 | GGCTATCCTTCTCTCACAT |
| siSTING-1 | GATCGGGTTTACAGCAACA |
| siSTING-2 | CTGGCATGGTCATATTACA |
| siSTING-3 | GGATTCGAACTTACAATCA |
| siMST1-1 | GGCAGCGTATACAAAAGCTA |
| siMST1-2 | CAAGCGGAATACAGTGATA |
| siMST1-3 | GGTAGCAGGTCAACTTACA |
| siFOXO1-1 | GAGGTATGAGTCAGTATAA |
| siFOXO1-2 | GCCCCTGAACTAGCTCAAA |
| siFOXO1-3 | TTCGGAATGACCTCATGGA |

siRNA, small interfering RNA.