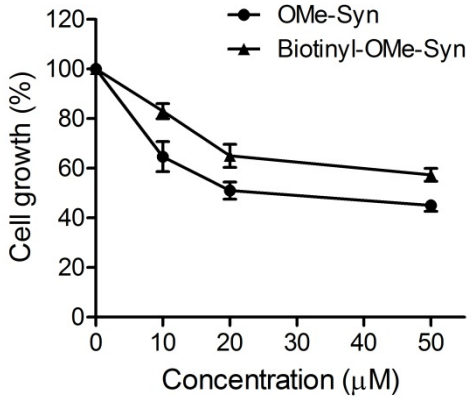
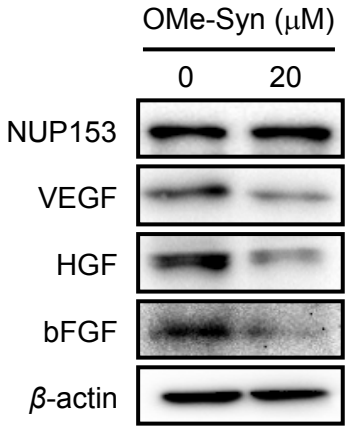
Supplementary Materials

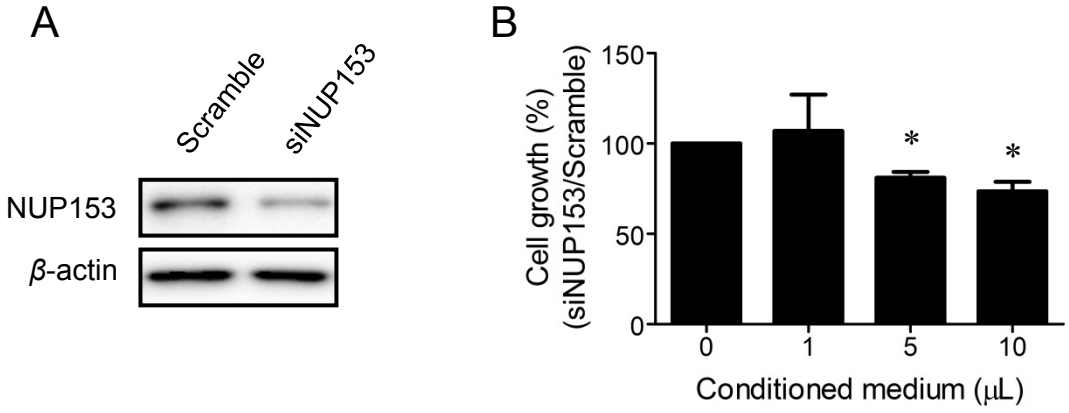
The small molecule R-(–)-β-O-methylsynephrine binds to nucleoporin 153 kDa and inhibits angiogenesis



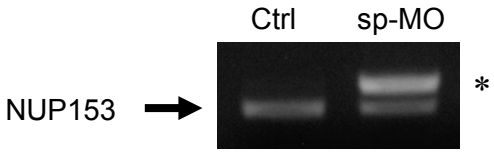
Supplementary Figure S1. Effects of OMe-Syn (●) and its biotinyl analog (▲) on HUVEC proliferation. HUVEC were treated with various concentrations of compounds for 72 hours and cell growth was measured by MTT assay.



Supplementary Figure S2. Effect of OMe-Syn on the protein levels of NUP153, VEGF, HGF and bFGF in HeLa cells. HeLa cells were treated with 20 μM OMe-Syn for 24 hours and the protein levels were analyzed by Western blotting.



Supplementary Figure S3. Effect of conditioned medium (CM) from NUP153-depleted HeLa cell culture on HUVEC proliferation. (A) The depletion of NUP153 by siRNA (10 nM) in HeLa cells was confirmed by Western blot analysis. (B) HUVEC were treated with various amounts of CM from scrambled or NUP153 siRNA-treated HeLa cells for 72 hours and cell growth was measured by MTT assay. The relative cell growth was calculated by the ratio of siNUP153 vs scrambled siRNA treated CM. $*p<0.05$ versus 0 μL of CM (One sample *t*-test).



Supplementary Figure S4. Effect of the morpholino (sp-MO) specific for NUP153 on the splicing of NUP153 mRNA. RT-PCR analysis shows that sp-MO inhibits the splicing of NUP153 mRNA in zebrafish. Asterisk (*) indicates the unspliced form of NUP153.

Supplementary Table 1. DNA sequences of phage clones isolated from the phage display

Phage encoding gene sequences

Nucleoporin 153kDa (NUP153) [Homo sapiens] (2 clones)

GAATTCTTCAATCCTTAAAACCAGTCAGCTTGGAGATTCTCCTTTTTATCCTGGAAAAA
CAACATACGGTGGGGCAGCAGCTGCTGTAAGACAGTCTAAACTACGAAATACACCTTA
TCAGGCACCAGTTAGAAGACAAATGAAAGCTAAGCAACTCAGTGCACAATCTTACGG
TGTGACCAGTTCAACAGCTCGGCGAATATTGCAGTCTTTAGAGAAGATGTCAAGCCCT
TTAGCGGATGCAAAAGCTT

- Color legends: restriction enzyme sites, CDS
- Frame of the insert is correct.

Calmodulin (CaM) [Homo sapiens] (2 clones)

GAATTCAAGCATCCGAGAGGCGTTCCGTGTCTTTGACAAGGATGGGAATGGCTACATC
AGCGCCGCAGAGCTGCGTCACGTAATGACGAACCTGGGGGAGAAGCTGACCGATGA
GGAGGTGGATGAGATGATCAGGGAGGCTGACATCGATGGAGATGGCCAGGTCAATTAT
GAAGAGTTTGTACAGATGATGACTGCAAAGTGAAGGCCCCCCGGGCAGCTGGCGATG
CCCGTTCTCTTGATCTCTCTCTTCTCGCGCGCACTCTCTCTTCAACACTCCCCTGCG
TACCCCGGTTCTAGCAAACACCAATTGATTGACTGAGAATCTGATAAAGCAACAAAAG
ATTTGTCCCAAGCTGCATGATTGCTTTTCTTCTTCTTCCCACTCATCCTAACCCTACTCC
TAATCACATAACCTATTCCCCCGAGCAATCTCAAGCTT

- Color legends: restriction enzyme sites, CDS
- Frame of the insert is correct.

Mesencephalic astrocyte-derived neurotrophic factor precursor (ARMET) [Homo sapiens] (7 clones)

GAATTCAAGCCAGATATGTGAGCTTAAGTATGACAAGCAGATCGACCTGAGCACAGTG
GACCTGAAGAAGCTCCGAGTTAAAGAGCTGAAGAAGATTCTGGATGACTGGGGGGGA
GACATGCAAAGGCTGTGCANAAAAGTCTGACTACATCCGGAAGATAAATGAACTGAT
GCCTAAATATGCCCCCAAGGCAGCCAGTGCACGGACCGATTTGTAGTCTGCTCAATCT
CTGTTGCACCTGAGGGGGAAAAAACAGTTCAAGCTT

- Color legends: restriction enzyme sites, CDS
- Frame of the insert is correct.

Sjogren's syndrome/scleroderma autoantigen 1, isoform CRA_c [Homo sapiens] (1 clone)

GAATTCAAGCATTGGGACGGGTCCTGGAGCCCTTCCAGGGCAGAGGAACCCAGAGCC
CGGAGGTGGGATGCCCCTGAGCCAGCAGCTGCCGATAGCAACAAAAGGTGAGGAGGA
GATGGGAGCCAGGCACTCATCCCAATCCCAGAGACGCCAAGCGGAAGGGAAGATGCT
TCGGGCCCCACCGCAAGGCTGAGGGTTGGCCAAGCTGGGGGTGCACACATGTGGAAG
AACTGGAGGCCCAGTGCCATGAGCAGAGGCTGTACCCTAGATGCCCGCCCCAGTGCCA
GCCAACCCAAGACAGGAGAAAGAGTTTGGCAGTTTCGCCTCTGAGGAATACATGCCTG
GCCCTCCTGTGAGGTGAGGCGGTAGGGGGGAAGGCGCAGGCTCCGAAGTCTGAGGGC
TTGCCGGAGGGGGAGTTTCTGAGGAAGCTT

- Color legends: restriction enzyme sites, CDS
- The insert was frameshifted.

Putative p150 [Homo sapiens] (2 clones)

GAATTCTACCAGAGGTACAAAGAGGAGCTGGAACCATTTCTTCTAAAATGATTCCAAAC
AAATTAAA
AGGAGAAACTCCTTCCTAACTAATTTTATGAGGCAAGCATCNTCCTGATAGCAAANCCT
AGCAGAGAGAGAGAGAGAAGGAAAGAAGGAAGGAAGGAAGGAAGGAAGGAGGAG
GAAGGAAGGAAGGGAGGAAGGAGAAAGAAAAAGANAGAGAGGGAGGAAGAGAGA
GAGAAAGAGGAAGAGAGAGANAGACAGAAGGAAGGAAGGAAGGAAAATANATGGA
AAGGAAAGGAGAGGANAAGAGAGAAGAAAAGAAAAGAGAAAAGAAAAGAGGGAG
GGAGGGAGGGAGGATGGATGGAAGGAAAGAAGGAAGAAAGGAAGGAGAGAAGAGA
GGAGAGGAGAGAAGANAATAGAATANAAGAGAAGAAAAGAAAAGAGAAGAGTNGCT
TNCCTNCCCCCCNCACTCACTTANCTACCCCNNCCCTTCTCCCCTCTGGNCNTGTCTTG
TTTTTTTNTTTGCTGANNNNCTTTTNTCTCTCCTCNCATACGANNCGGNNCG

- Color legends: restriction enzyme sites, CDS
- The insert was frameshifted.
