Supplementary Figure 1

A, Live cell number after 48-h culture under the indicated conditions. N: normoxia, H: hypoxia, HiGlc: high glucose, and NoGlc: no glucose. B, Concentration of lactate in the medium in which HCT116 cells were cultured under the indicated conditions for 24 h. The values of lactate concentration were normalized to the cell number. C, Plating efficiency of HCT116 cells cultured under the indicated conditions for 6 h. Cells were plated at a density of 10^5 cells/cm^2. Cells were exposed to normoxia or hypoxia with high glucose or no glucose for 6 h. Cells were then trypsinized, counted with a hemocytometer, and plated into 60-mm-diameter dishes at densities of 50 cells per dish. Platings were performed in triplicate, and each experiment was performed three times. After incubation for 14 d, cells were fixed with methanol–acetic acid and stained with crystal violet. Colonies containing more than 50 cells were counted. The plating efficiencies were determined for each treatment and normalized to the control. The average normalized surviving fraction from three independent experiments and the standard deviation are reported.

Supplementary Figure 2

A, RT-PCR for the c-MYC target genes. HCT116 mycERT cells were cultured with or without serum for 24 h, followed by stimulation with 4-OHT (TM) or ethanol (Et) for 6 h, and subjected to the analysis. B, Western blot of c-MYC from HCT116 cells, cultured under the indicated conditions for 1 to 4 h.

Supplementary Figure 3

Polysome profiles in cell lysates fractionated by sucrose density ultracentrifugation. Pictures of agarose gel electrophoresis of the fractionated cell lysate from HCT116 cells cultured under the indicated conditions are shown. Either hypoxia or glucose deprivation alone suppressed global mRNA translation, while the suppression was more evident under oxygen- and glucose-deprivation conditions.

Supplementary Figure 4

Western blot of HIF-1α, c-MYC, and β-actin. HCT116 cells stably transfected with pSUPER.retro/shHIF-1α (sh*HIF-1α*) or pSUPER.retro control (control) were cultured under hypoxic conditions without glucose for the indicated time periods.

Supplementary Figure 5

A, Cell death analysis by the trypan blue exclusion test. HCT116 cells were cultured under the indicated conditions for 48 h. Mean ± SD, n = 3. B, Western blot of cleaved (cl) caspase-3 and β-actin. HCT116 mycERT cells were cultured under the indicated conditions with 4-OHT (TM) or ethanol (ET) for the indicated periods.

Supplementary Figure 6

A, Flow cytometric analysis using an antibody against HMGB1 (ab18256) (Abcam, Cambridge, UK). HCT116 cells were cultured under the indicated conditions for 48 h. B, Western blot of c-MYC and β-actin. HCT116 cells stably transfected with the sh*c-MYC* construct (sh*c-MYC*) or the empty vector (control) were cultured under the indicated conditions for 6 h. C, Cell cycle analysis by flow cytometry using antibodies against BrdU and propidium iodide (PI). BrdU; bromodeoxyuridine, PI; propidium iodide. The number in the panels indicates the percentage of each gate. D, Cell death analysis of the cells by flow cytometry using antibodies against Annexin-V and propidium iodide (PI). HCT116 cells were cultured under the indicated conditions for 48 h. Percentage of the cells withing the gates are indicated.

Supplementary Figure 7

A, Western blot of c-MYC and β-actin from human Burkitt lymphoma cell line, Raji cells and HCT116 cells under the indicated conditions for 6 h. Raji cells were generous gifts form Dr. Norimitsu Inoue, Osaka Medical Center for Cancer and Cardiovascular Diseases, Osaka, Japan. B, Western blot of c-MYC and β-actin from HCT116 mycERT cells under the indicated conditions for 6 h.

Supplementary Figure 8

Western blot of c-MYC and β-actin from HCT116 cells, cultured in the medium without glucose or glutamine under the indicated conditions for 6 h.