Ab-Carrier™

Transfection with Anti-nuclear pore complex (NPC) antibody inhibits HeLa cell proliferation

Experimental protocol

Seeding HeLa cells in 96-well plate
(5 × 10^4 cells/mL; medium volume MEM (+ 10% FBS) 0.1 mL/well)
↓ Incubate at 37° C in the presence of 5% CO2 for 24 hours
Ab-Carrier™ 0.5 µL was added to 10 µL of anti-NPC antibody (0.1 mg/mL) and mixed well.
↓ room temperature for 20 minutes
Add 10.5 µL/well of reaction solution to HeLa cells after 24-hour culture.
↓ 37° C in the presence of 5% CO2 for 4 hours
Remove the medium and wash with PBS 0.1 mL/well × 2 times.
↓
Add 0.25% Trypsin-EDTA 20 µL/well
↓ 37° C in the presence of 5% CO2 for 2 minutes
Add 0.2 mL of MEM (+ 10% FBS)
↓
Cell count measurement

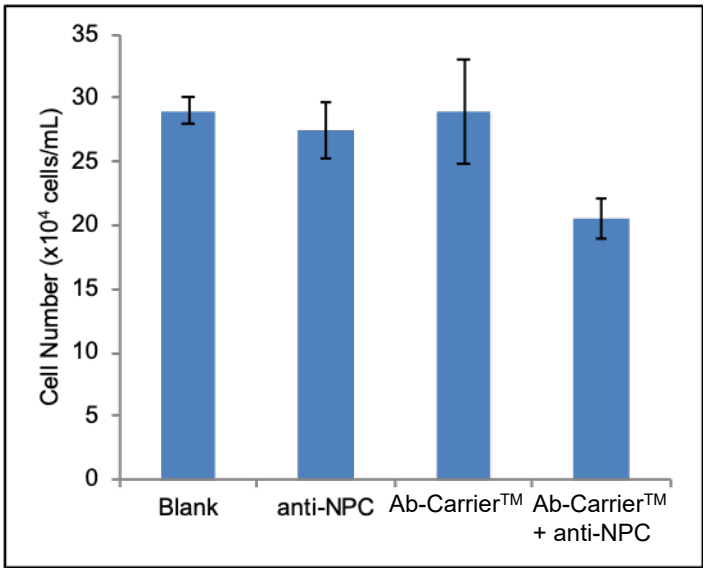

Figure 1. Inhibition of cell growth by anti-NPC antibody (n = 4)

Blank: unprocessed
anti-NPC: anti-NPC antibody only
Ab-Carrier™: only Ab-Carrier
Ab-Carrier™ + anti-NPC: mixture of Ab-Carrier™ and anti-NPC antibody

Antibodies used:
Anti-NPC antibody (Sigma-Aldrich)
Monoclonal Anti-Nuclear Pore Complex Proteins, clone 414 (mouse IgG1)

The antibody was used after removing the preservative (NaN3) by desalting.

24 hours after seeding HeLa cells (5 x 10^4 cells/mL) in a 96-well plate, a pre-mixture of antibody transfection reagent Ab-Carrier™ and anti-nuclear pore complex (NPC) antibody were added and cells were cultured for another 24 hours before comparing cell number with and without treatment. Compared to untreated cells, cells treated with a mixture of Ab-Carrier™ and anti-NPC antibody exhibited ~69% suppression of proliferation. We conclude that the antibody introduced into cells bound to the nuclear pore complex and impaired proliferation by inhibiting substance transport across the nuclear membrane.

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