

Thermo Scientific Nalgene PETG Sterile Disposable Flasks

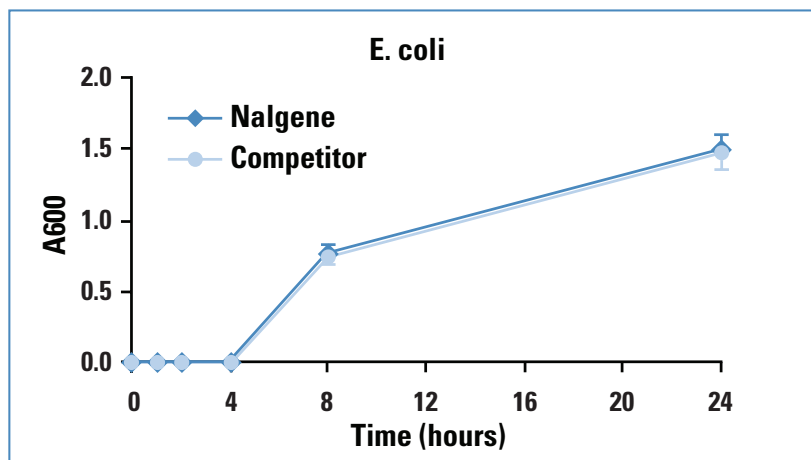
A cost-effective option for suspension mammalian cell culture, bacteria and yeast

Thermo Scientific Nalgene polyethylene terephthalate copolyester (PETG) sterile (SAL 10^{-6}) disposable flasks reduce cross-contamination and eliminate the need for sterilization. The standard un-vented closure prevents spilling and contamination during media preparation or storage. The vented (0.22 μ m) closure improves gas exchange, so it is particularly beneficial for suspension cell culture.

In order to further characterize the ability of different types of organisms to be grown in Nalgene® PETG Sterile Disposable Flasks, representative bacterial, yeast, and mammalian cells were cultured in Nalgene PETG flasks and in polycarbonate (PC) flasks from a competitor.

Bacterial Cell Culture

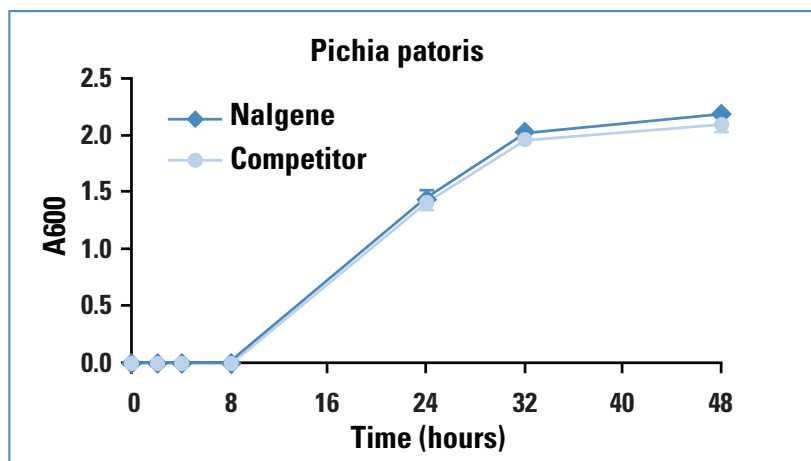
Equal amounts of *E. coli* cells were inoculated into 100mL of LB media containing 50 μ g/mL ampicillin in 12 Nalgene 500mL PETG flasks with vented caps and into 12 competitor's 500mL PC flasks with vented caps. Samples were taken at 1, 2, 4, 8, and 24 hours after inoculation, and A600 was measured to estimate bacterial growth. At all time points tested, the bacterial cell densities (measured by A600) were equivalent. At 24 hours, averages of A600 were 1.50 ± 0.09 (mean \pm SD) for Nalgene PETG flasks and 1.46 ± 0.11 for the competitor's PC flasks.



Yeast Cell Culture

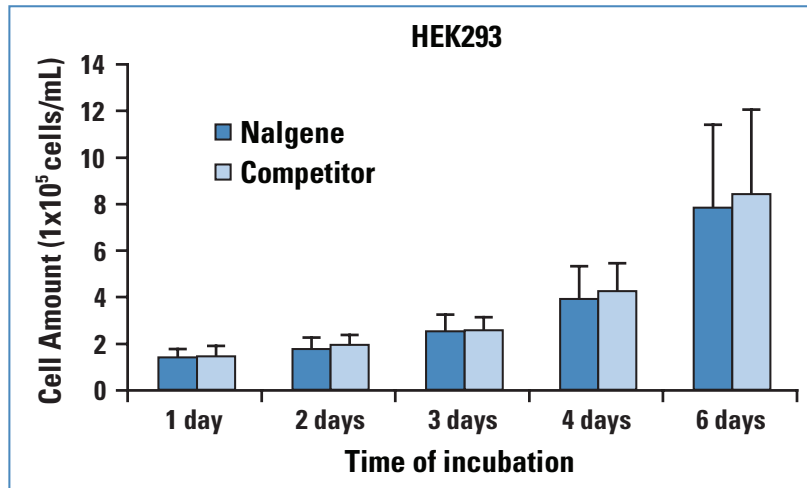
A single colony of *Pichia pastoris* was selected from an agar plate and grown in YEPD medium containing kanamycin (0.1mg/mL). Equal volumes of *Pichia pastoris* culture (A600 ~0.5) were inoculated into 30mL/flasks of YEPD medium, in 12 Nalgene 125mL PETG flasks, and 12 competitor 125mL PC flasks, and incubated at 30°C with continuing shaking in a shaking

incubator. At 2, 4, 8, 24, 32 and 48 hours after inoculation, samples were taken from each flask, and A600 was measured to estimate growth. At all time points tested, the yeast cell growth is equivalent in Nalgene PETG flasks and the competitor's PC flasks. After 48 hours, the averages of A600 were 2.21 ± 0.03 for Nalgene PETG flasks and 2.11 ± 0.04 for the competitor's PC flasks.



HEK293 Suspension Culture

HEK293 cells traditionally are grown as adherent-dependent cultures in media containing 10% fetal bovine serum. In suspension, serum-free media was employed. Before seeding the serum-free cultures, adherent parent flasks were pre-adapted to grow in reduced serum concentrations. Serum-free cultures were incubated in a 37°C, 8% CO₂ incubator with continuous shaking. Equal numbers of HEK293 cells were seeded into Nalgene 125mL PETG flasks, and a competitor's 125mL PC flasks. After six days incubation, the viability of HEK293 cells in both Nalgene PETG and the competitor's PC flasks was >90%. After 1, 2, 3, 4 and 6 days incubation, the average cell density in Nalgene PETG flasks was approximately equivalent to those of the competitor's PC flasks. Cell doubling time of HEK293 cells was 54.4±14.8 hours in Nalgene PETG flasks, and 51.4±12.0 hours in the competitor's PC flasks. Data from cell viability, cell density and doubling time suggests that Nalgene PETG flasks are excellent vessels for HEK293 suspension culture.



Conclusion

Nalgene PETG sterile disposable flasks provide equivalent performance in culture of various cell types, while the price of Nalgene PETG sterile disposable

flasks is much lower than the competitor's PC flasks. Moreover, the Nalgene PETG sterile disposable flasks are sterilized at SAL 10⁻⁶, and certified as non-pyrogenic.

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Thermo Scientific Nalgene Sterile Disposable Flasks

Cat. No.	Description	Size, mL	Bottom Style	Closure	No. per case
4115-0125	Sterile PETG Erlenmeyer Flask	125	Plain	Blue, Vented	24
4115-0250	Sterile PETG Erlenmeyer Flask	250	Plain	Blue, Vented	12
4115-0500	Sterile PETG Erlenmeyer Flask	500	Plain	Blue, Vented	12
4115-1000	Sterile PETG Erlenmeyer Flask	1000	Plain	Blue, Vented	6
4115-2000	Sterile PETG Erlenmeyer Flask	2000	Plain	Blue, Vented	4
4115-2800	Sterile PETG Fernbach Flask	2800	Plain	Blue, Vented	4
4116-0125	Sterile PETG Erlenmeyer Flask	125	Baffled	Blue, Vented	24
4116-0250	Sterile PETG Erlenmeyer Flask	250	Baffled	Blue, Vented	12
4116-0500	Sterile PETG Erlenmeyer Flask	500	Baffled	Blue, Vented	12
4116-1000	Sterile PETG Erlenmeyer Flask	1000	Baffled	Blue, Vented	6
4116-2000	Sterile PETG Erlenmeyer Flask	2000	Baffled	Blue, Vented	4
4116-2800	Sterile PETG Fernbach Flask	2800	Baffled	Blue, Vented	4
4112-0250	Sterile PETG Erlenmeyer Flask	250	Plain	White, Non-vented	12
4112-0500	Sterile PETG Erlenmeyer Flask	500	Plain	White, Non-vented	12
4112-1000	Sterile PETG Erlenmeyer Flask	1000	Plain	White, Non-vented	6
4112-2000	Sterile PETG Erlenmeyer Flask	2000	Plain	White, Non-vented	4
4112-2800	Sterile PETG Fernbach Flask	2800	Plain	Blue, Non-vented	4
4113-0125	Sterile PETG Erlenmeyer Flask	125	Baffled	White, Non-vented	24
4113-0250	Sterile PETG Erlenmeyer Flask	250	Baffled	White, Non-vented	12
4113-0500	Sterile PETG Erlenmeyer Flask	500	Baffled	White, Non-vented	12
4113-1000	Sterile PETG Erlenmeyer Flask	1000	Baffled	White, Non-vented	6
4113-2000	Sterile PETG Erlenmeyer Flask	2000	Baffled	White, Non-vented	4
4113-2800	Sterile PETG Fernbach Flask	2800	Baffled	Blue, Non-vented	4

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Austria

+43 1 801 40 0

Belgium

+32 53 73 42 41

China

+86 21 68654588

Denmark

+45 4631 2000

France

+33 2 2803 2180

Germany

+49 6184 90 6940

India

+91 22 6716 2200

Italy

+39 02 02 95059 or
434-254-375

Japan

+81 3 3816 3355

Netherlands

+31 76 571 4440

Nordic/Baltic countries

+358 9 329 100

North America

+1 585-586-8800

Russia/CIS

+7 (812) 703 42 15

Spain/Portugal

+34 93 223 09 18

South America

+1 585 899 7298

Switzerland

+41 44 454 12 12

UK/Ireland

+44 870 609 9203

Other Asian countries

+852 2885 4613

Countries not listed

+49 6184 90 6940 or
+33 2 2803 2180

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