

Nanosep® and Nanosep MF Centrifugal Devices

Simple, reliable concentrating and desalting of 50 to 500 µL samples



- ▶ Ensures rapid processing of samples.
- ▶ Typical recoveries are > 90%. Available with low protein-binding Omega™, Bio-Inert®, and GHP membranes.
- ▶ A wide range of MWCOs, color-coded for easy identification.
- ▶ Constructed of low-binding polypropylene.
- ▶ Ultrasonically welded seals prevent bypass or seal failure.
- ▶ Fits standard centrifuge rotors that accept 1.5 mL tubes.

Applications

- ▶ Concentrate, purify, and desalt oligonucleotides, DNA, RNA, and proteins.
- ▶ Clean up labeling and PCR reactions.
- ▶ Isolate DNA from agarose gel slices.
- ▶ Separate oligonucleotides and RNA from acrylamide gels.
- ▶ Concentrate PCR products regardless of size with 30K device if primer removal is required.

Specifications

Materials of Construction

Nanosep Devices

Filter Media: Omega (modified polyethersulfone) ultrafiltration membrane

Sample Reservoir, Membrane Support Base, and Filtrate Receiver: Polypropylene

Nanosep MF Devices

Filter Media: Bio-Inert (modified nylon) and GH Polypro (GHP, hydrophilic polypropylene) membranes

Sample Reservoir, Membrane Support Base, and Filtrate Receiver: Polypropylene

Effective Filtration Area

0.3 cm²

Dimensions

Overall Length (Fully Assembled With Cap): 4.5 cm (1.8 in.)

Capacities

Maximum Sample Volume: 500 µL

Final Concentrate Volume: 15 µL

Filtrate Receiver Volume: 500 µL

Hold-Up Volume (Membrane/Support): < 5 µL

Operating Temperature Range

0 - 40 °C (32 - 104 °F)

pH Range

Nanosep Devices: 1 - 14

Nanosep MF Devices: 3 - 14

Maximum Centrifugal Force

14,000 x g

Centrifuge

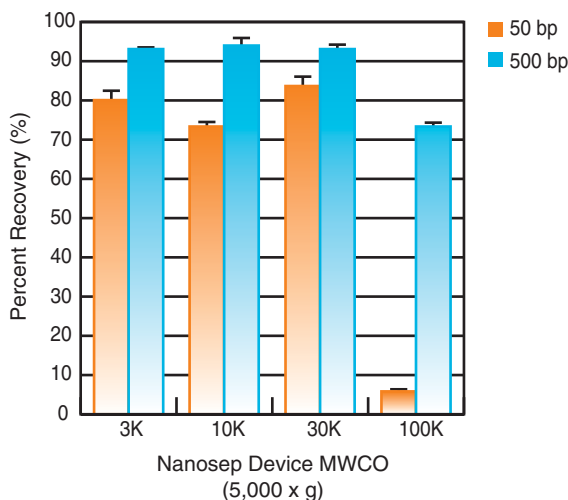
Fits rotors that accept 1.5 mL tubes

Sanitization

Provided non-sterile. May be sanitized by filtering 70% ethanol through the device prior to use.

Performance

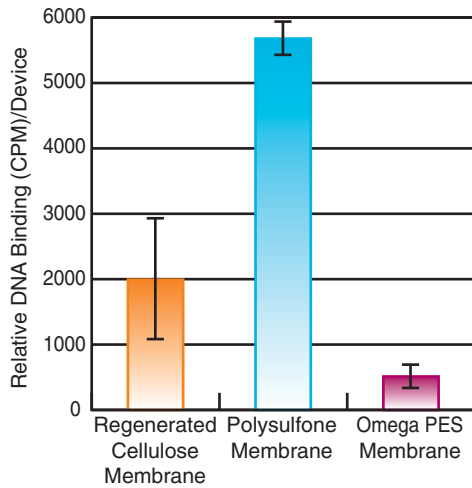
DNA Recovery as a Function of Device MWCO



A 500 µL sample of a 100 µg/mL DNA fragment solution containing 50 and 500 bp double-stranded DNA fragments was centrifuged at 5,000 x g in Nanosep devices to a final volume of 50 µL. Recovered samples were quantitated using absorbance at 260 nm. The 100K device was able to differentiate between the sizes of the DNA fragments.

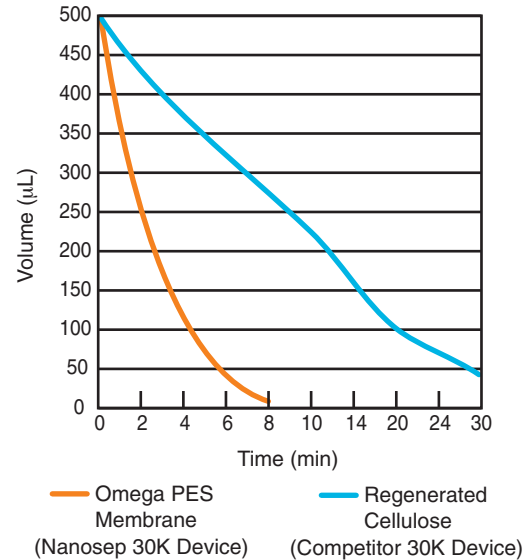
Performance

Omega™ Membrane Has the Lowest Non-Specific DNA Binding



A 500 μL sample of a ^{32}P -labeled PCR product (400 bp, 50 ng/mL) was centrifuged at 5,000 $\times g$ in a 100K Nanosep or competitive device. The retained DNA was recovered in 40 μL TE (10 mM Tris, 1 mM EDTA, pH 8). The remaining radioactivity in the device was counted in a scintillation counter. A value at 1000 CPM roughly corresponds to 1% of the total radioactive sample. Omega membrane has the lowest non-specific binding, resulting in highest DNA recoveries. In general, DNA molecular weights do not correspond well with the MWCO because DNA is a long linear molecule. Effective retention of DNA by an ultrafiltration membrane requires a reduction in g -force to 5,000 $\times g$. Otherwise, DNA can be forced through many MWCO membranes regardless of size.

Centrifugal Device Spin Times



Ordering Information

Nanosep Centrifugal Devices With Omega Membrane

Part Number	Description	Pkg
OD003C33	3K, gray	24/pkg
OD003C34	3K, gray	100/pkg
OD003C35	3K, gray	500/pkg
OD010C33	10K, blue	24/pkg
OD010C34	10K, blue	100/pkg
OD010C35	10K, blue	500/pkg
OD030C33	30K, red	24/pkg
OD030C34	30K, red	100/pkg
OD030C35	30K, red	500/pkg
OD100C33	100K, clear	24/pkg
OD100C34	100K, clear	100/pkg
OD100C35	100K, clear	500/pkg
OD300C33	300K, orange	24/pkg
OD300C34	300K, orange	100/pkg
OD300C35	300K, orange	500/pkg

Nanosep MF Centrifugal Devices With Bio-Inert® Membrane

Part Number	Description	Pkg
ODM02C33	0.2 μm , aqua	24/pkg
ODM02C34	0.2 μm , aqua	100/pkg
ODM02C35	0.2 μm , aqua	500/pkg
ODM45C33	0.45 μm , wildberry	24/pkg
ODM45C34	0.45 μm , wildberry	100/pkg
ODM45C35	0.45 μm , wildberry	500/pkg

Nanosep MF Centrifugal Devices With GHP Membrane

Part Number	Description	Pkg
ODGHPC34	0.45 μm , clear	100/pkg
ODGHPC35	0.45 μm , clear	500/pkg