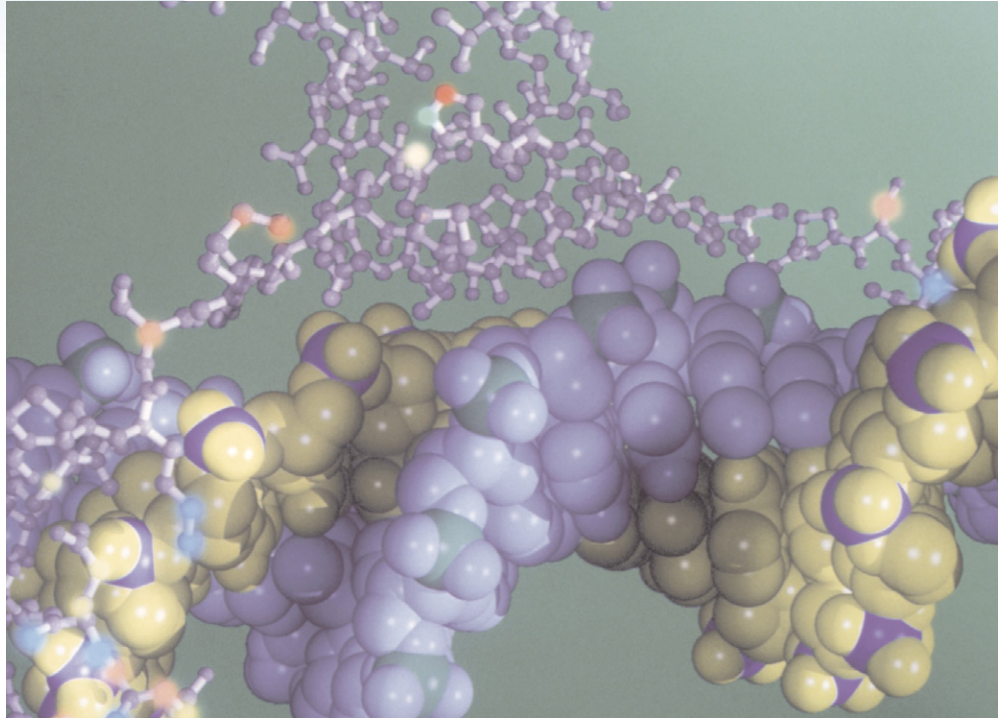


Perfluorosorb® S



- Remove endotoxin
- Remove proteins
- Remove RNA and genomic DNA
- Reuse with documented CIP procedure
- Run at flow rates up to 700cm/hr with low back-pressures
- Drug Master File registered with FDA
- Manufactured in GMP facility

Unique synthetic adsorbent for the purification of plasmid DNA

Gene therapy and DNA vaccination are rapidly evolving practices as innovation in biotechnology and an industry's dedication to science continues to seek cures for genetic disorders and infectious disease.

ProMetic BioSciences is proud to play a role in the advancement of life science. With the introduction of Perfluorosorb® S, we have applied our core capabilities in the design and manufacture of synthetic, particulate chromatographic media to this important field.

Perfluorosorb S is a unique, patented product for the purification of plasmid DNA. It has been specifically engineered to preferentially adsorb super-coiled DNA from mixtures of RNA, endotoxin, proteins and other isoforms of DNA and thus provides DNA of the highest purity and potency for laboratory experimentation, clinical trial, and therapeutic manufacture.

Perfluorosorb® S



We develop and produce a variety of affinity purification media for the concentration and separation of therapeutic antibodies, plasma proteins, plasmid DNA, transgenic therapeutics, enzymes, vaccines and more.

- Primary capture and polishing
- High and low copy plasmids
- Large and small DNA molecules
- Useful with endotoxin concentrations above 5000 EU/mg DNA
- Milligram and multigram quantities of pDNA

Since 1987 ProMetic has been pioneering design, development, and manufacture of affinity purification technology for large-scale bioprocessing as well as research and development at lab-scale in the biotechnology industry. Our patented Mimetic Ligand™ technology synthetically “mimics” and enhances the natural molecular affinity of binding ligands towards targeted biomolecules.

The result: Optimized binding and yields for all your biomolecular purification needs. The key to our success in biomolecule purification lies in the development of an extensive Chemical Combinatorial Library™. Through years of dedication, research and development we’ve systematically screened countless ligand arrays and utilized our computer modeling processes to design new ligand structures.

Dedicated to ISO9001 quality and increased production efficiency

Quality and innovation go hand in hand. That’s why we work hard to maintain and even exceed ISO9001 standards. By staying close to our customers and their unique requirements we enhance our ability to provide innovative solutions to meet the needs of the biopharmaceutical market.

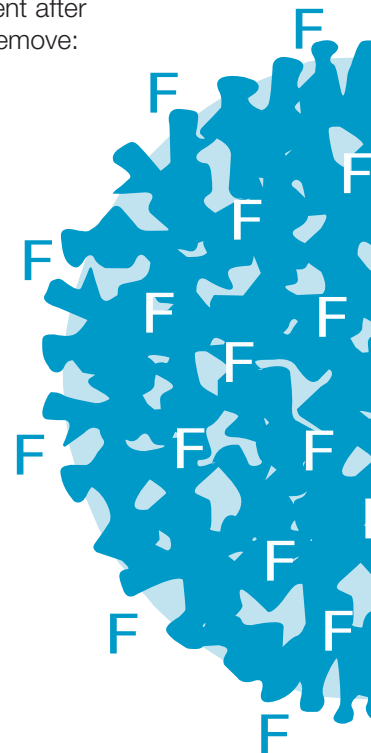
One such innovation is our PuraBead®, cross-linked, agarose matrix designed for high flow and maximum binding capacity.

We collaborate with pharmaceutical and biotech companies to optimize bioseparation and purification processes. Our patented separation technology and expansive Chemical Combinatorial Library™ of synthetic ligand media increases production efficiency, reduces manufacturing costs and enables companies to strengthen market positions through continuous improvements in product purity and yield.

Introducing Perfluorosorb® S

Perfluorosorb S is an engineered, polymeric adsorbent for the purification of plasmid DNA using reverse phase chromatography. It’s highly porous structure, broad pH resistance and high binding capacity make it ideal for purification of supercoiled pDNA. Perfluorosorb S is conveniently available as a slurry in 24% Ethanol in water for improved results in a number of purification processes:

- Primary capture, post-cell lysis and clarification
- As a polishing agent after ion exchange to remove:
 - endotoxin
 - genomic DNA
 - occ and other DNA isoforms
 - protein
 - RNA



Perfluorosorb® S

Perfluorosorb at work

Plasmid DNA binds to Perfluorosorb in neutral buffers containing ion-pairing agents. Endotoxins are mainly removed in the flow-through and residual amounts are cleared along with RNA in a wash step.

The super-coiled form of plasmid DNA preferentially binds to Perfluorosorb using reverse phase buffers. Ion-pairing agents are used to enhance separations and resolution in reverse phase chromatography and are totally removed by the wash buffers.

The addition of electrolytes, which are usually present after an ion-change step, will actually positively affect the binding between the extremely hydrophobic surface and exposed polar surface of the separation target.

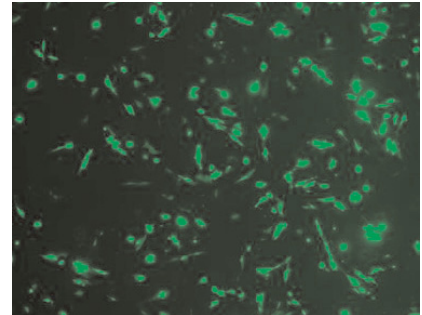
Bioavailability

The transfection efficiency of plasmid DNA purified using Perfluorosorb S is at least as good as pDNA obtained using other methods. For example, CCL39 fibroblasts that were transiently transfected with a plasmid encoding for Green Fluorescent Protein showed that transfection efficiencies of more than 60% could be achieved using plasmids isolated using Perfluorosorb S.

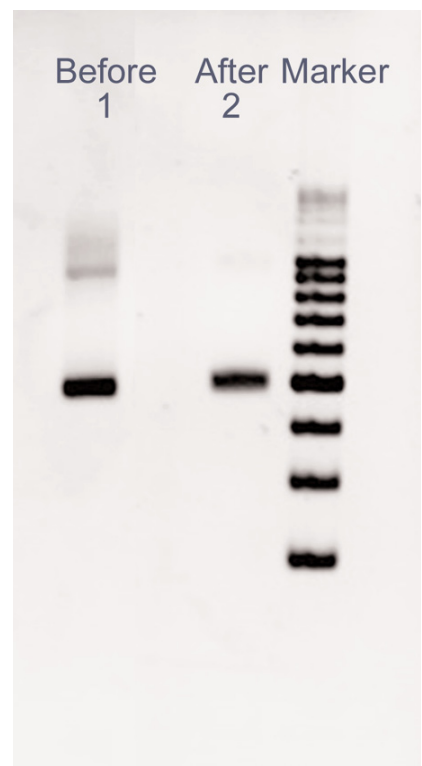
The proof is in the purity

As an example of the exceptional ability of Perfluorosorb S to perform at process or laboratory scale, following is a typical purity profile of polished DNA that can be achieved:

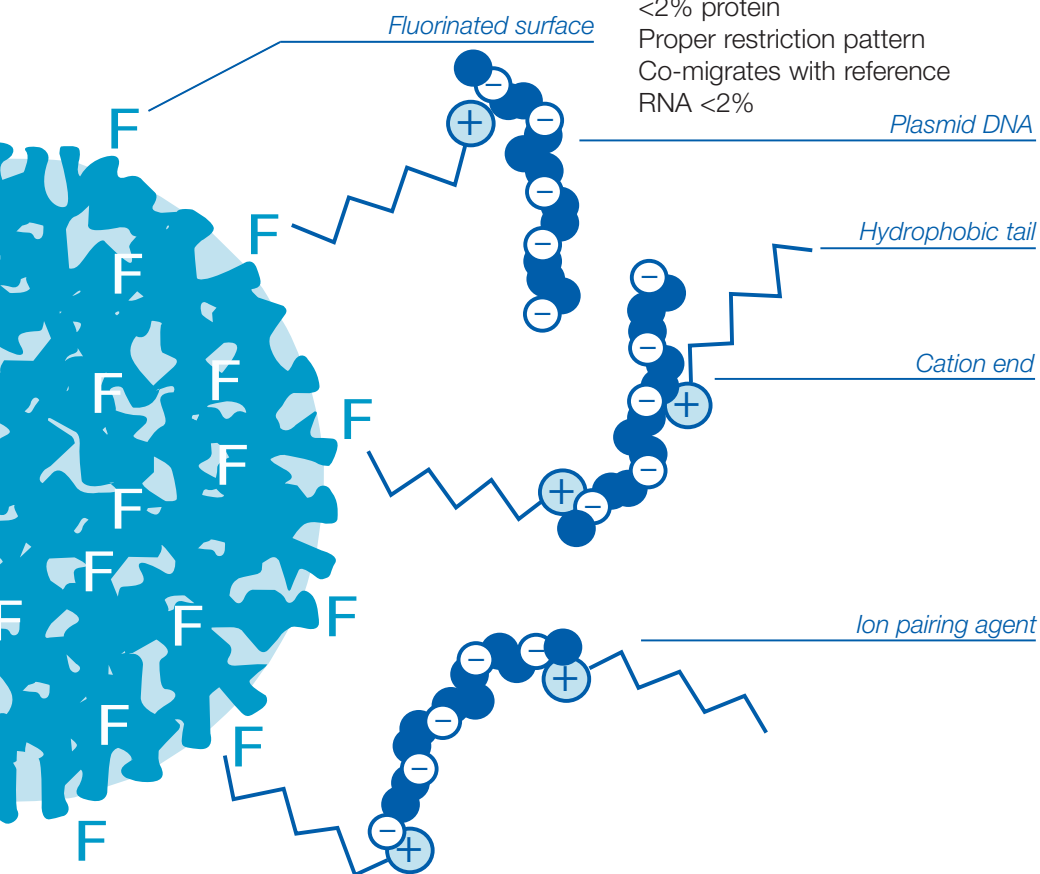
- >95% supercoiled DNA
- 1.8 A_{260}/A_{280} <math><2.0</math>
- <math><2\%</math> genomic DNA
- <math><3</math> EU endotoxin/mg pDNA
- <math><2\%</math> protein
- Proper restriction pattern
- Co-migrates with reference RNA <math><2\%</math>



Photomicrograph of CCL 39 Fibroblasts transiently transfected with a green fluorescent protein-containing plasmid purified using Perfluorosorb S.



Electrophoresis of DNA produced for an Avian West Nile Virus vaccine when Perfluorosorb was used as the polishing step to remove endotoxin and to enrich the supercoiled pVAX-WN. (courtesy of Aldevron LLC, 2003).



Perfluorosorb® S

Get started on the road to better results

No special equipment is needed to get started on plasmid purification with Perfluorosorb. Simply pack into a standard column using 10µm frits. Follow the supplied packing instructions and special buffer protocols. Perfluorosorb columns can be run on any low pressure chromatography workstation. In fact, Perfluorosorb is strong enough for use in an HPLC environment, if desired. If you intend to use Perfluorosorb in production of cGMP plasmid DNA, ask for ProMetic's Drug Master File reference. A Material Safety Data Sheet (MSDS) is also available.

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PRODUCT SPECIFICATIONS

New synthetic, fluorinated polymeric entity
Spherical, porous particles
Mean particle size: 45µm
Pure pDNA binding capacity: up to 0.7mg/mL
Flow rates: up to 700 cm/hr at 1 bar (15psi)
Stable in pH range 1-14
Resistant to 5M sodium hydroxide
Suited to repeat-use bioprocess applications
Store at 2-30°C in 24% ethanol

ORDERING INFORMATION

Perfluorosorb® S (suspension for packing into columns)

25 ml5003-00025
100 ml5003-00100
500 ml5003-00500
1000 ml5003-01000

(Please enquire for quantities greater than 1 liter.)