

### NMR Magnet and Probe

A nuclear magnetic resonance (NMR) system has been equipped with an actively shielded Aeon 1-GHz magnet at the University of Bayreuth, Germany, while a single-story Aeon 950-MHz magnet has been successfully installed at the University of Leeds, United Kingdom. Active shielding reduces the space requirements for the two-story magnet by more than an order of magnitude. The Aeon magnets feature novel active refrigeration technology, eliminating the need for liquid nitrogen and reducing liquid helium boil-off essentially to zero under normal operation. In conjunction with the latest GHz magnets and novel nitrogen-15 ( $^{15}\text{N}$ ) direct-detect NMR methods, the CryoProbe now makes direct  $^{15}\text{N}$  detection sensitive and advantageous in very large globular proteins and intrinsically disordered proteins, due to the longer relaxation times, high resolution, and low chemical shift anisotropy of  $^{15}\text{N}$  spectra.  $^{15}\text{N}$  detection is beneficial in cases where carbon-detected methods suffer from multiple couplings to neighboring carbons, or in the study of proline-rich protein domains and paramagnetic metalloproteins.

#### Bruker

For info: +49-(0)-721-5161-6500  
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### UHPLC Columns

Luna Omega 1.6- $\mu\text{m}$  particle UHPLC columns deliver improved performance compared to other sub-2- $\mu\text{m}$  products on the market, along with exceptionally tight particle size distribution, high column packing efficiencies, steady selectivity, and excellent reproducibility. Luna Omega columns are well suited for drug discovery and development, food contaminant analysis, environmental testing, toxicology, and clinical research. The columns feature novel silica with a constant particle morphology that is modified with proprietary, postsynthetic thermal treatment processes for mechanical strength and inertness. These beads provide significantly better peak shape for compounds of interest and minimize unwanted secondary interactions. Proprietary bonding technologies ensure wide stationary phase coverage and excellent separation power. Together, Kinetex core-shell technology and Luna Omega columns provide an ideal, complementary UHPLC solution. Combinations such as the Luna Omega 1.6- $\mu\text{m}$  C18 with the Kinetex 1.7- $\mu\text{m}$  Biphenyl and Kinetex 1.7- $\mu\text{m}$  F5 promote greater method development success.

#### Phenomenex

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### Gas Purifiers

Gas purity is essential in any GC, HPLC, or GC/MS application requiring high sensitivity. Available in optimized models for helium, hydrogen, nitrogen, and pure air, GasTrap gas purifiers dramatically reduce the levels of contaminants, enhance the purity of lower grade helium, help ensure instrument stability and reproducibility, and lower running costs. Laboratory gases for GC, HPLC, and GC/MS are typically supplied in pressurized cylinders that contain trace impurities. Even with specialty high-purity gas supplies, trace contaminants of up to 20 ppm oxygen, water, carbon dioxide, neon, and argon are present, which increase proportionately as the cylinder pressure drops. Unlike disposable gas filters that are time consuming, costly, and cannot remove gases such as neon, argon, or nitrogen, GasTrap gas purifiers use patented Pressure Swing Adsorption technology to remove all contaminant trace gases and self-clean every cycle.

#### Asynt

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### Running Buffer

The new Fisher BioReagents FastRun Tris SDS PAGE Running Buffer provides comparable or better resolution and an increased molecular weight separation range of proteins when compared to traditional Tris-glycine-sodium dodecyl sulfate (SDS) buffer. The new buffer system also reduces the number of Tris-glycine polyacrylamide gel compositions required to resolve a protein, saving researchers time and money. Tris-glycine mini-gels (precast or homemade) prepared with the conventional buffer system are typically run at 125 V. The buffer system heats up at high voltages, which in turn heats the gel, resulting in a breakdown of the protein bands and loss of resolution. The Fisher BioReagents FastRun buffer can be run at a higher voltage (200 V recommended), because it does not generate excessive heat. The result is a significant improvement in run times. In an example, gels run with the new buffer system took only 25 minutes, compared to 90-minute run times with the traditional reagents.

#### Fisher Scientific

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### Therapeutic Protein Analysis Kits, Columns, and Software

Biopharmaceutical companies can now achieve advanced levels of specificity, sensitivity, and speed with these specialized analytical workflow solutions for the characterization and quantification of proteins. Thermo Scientific DNAPac RP columns separate and characterize DNA/RNA oligonucleotides and longer double-stranded DNA fragments (up to 10k base pairs) using reversed-phase (RP) HPLC and LC/MS. The Thermo Scientific SMART Digest Kit is a protein digestion kit for reproducible, sensitive, and fast bottom-up analysis of

proteins. The Thermo Scientific Vanquish Flex UHPLC System is a fully bioinert UHPLC offering that delivers reliable separations. The Thermo Scientific Dionex Chromleon 7.2 Chromatography Data System answers questions that frequently arise during method development. The Thermo Scientific MAbPac RP column conducts high-resolution separation of intact proteins, such as monoclonal antibody (mAb) variants and antibody drug conjugates. Thermo Scientific BioPharma Finder software provides intelligent batch/lot comparisons to promote consistency and quality throughout.

#### Thermo Fisher Scientific

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