Agilent’s BioMAS Probe
The only MAS probe specifically designed for protein samples

Technical Overview

Key Benefits

Careful sculpting of the RF leads to outstanding salt tolerance, minimal RF heating, and superb RF homogeneity. The BioMAS probe exploits a scroll-like structure to eliminate the E-field from the sample, while at the same time providing the most homogeneous B-field for maximum sensitivity.
In a conventional MAS probe, the sample is thermally denatured. After 16 hours, in the BioMAS probe, the sample remains the same.

The spectra above are CP/MAS spectra of Ubiquitin at 0 °C, 7.5% duty cycle at 75 kHz decoupling for 120 ms per transient. Spectra obtained in collaboration with Dr. C. Rienstra, UIUC, Department of Chemistry, Urbana, IL.
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Performance

- **Superior RF homogeneity**—With outstanding RF homogeneity excellent nutation results are obtained which translate to higher signal-to-noise.

Results

- **Superior salt tolerance**—While probe Q changes minimally from 0 to 1 M salt, probe tuning does not change. This results in minimal sample heating even at 3 times greater RF field strength.

- **Minimal RF heating**—Minimal sample heating even at high duty cycles means faster results, as shown in the planes taken from a 3D NCOCX of Ubiquitin.
BioMAS probes are available as 3.2 mm HXY probes for 500–900 MHz spectrometer frequencies and magnet bore sizes from 51 mm to 89 mm. Contact your Agilent sales representative for further details.