



Stable Isotope-Labelled Protein and RNA Standards for NMR

Silantes offers high quality stable isotope labelled ubiquitin and ribo oligonucleotides for monitoring the performance of NMR-spectrometers and for testing new pulse-sequences.

	Human Ubiquitin	RNA oligo nucleotide
Available isotopic labellings	^2H , ^{13}C , ^{15}N , $^2\text{H}^{15}\text{N}$, $^{13}\text{C}^{15}\text{N}$, $^2\text{H}^{13}\text{C}^{15}\text{N}$	^{15}N , $^{13}\text{C}^{15}\text{N}$
Sequence	MQIFVKLTG KTITLEVEPS DTIENVKAKI QDKEGIPPQQ QRLIFAGKQL EDGRTLSDYN IQKESTLHLV LRLRGG	5' - pppGGCACUUCGGUGCC - 3'
Molecular weight of the unlabelled molecule	8.500 Da	3751.8 Da

Available as either free protein or in His-tagged form.

Isotopic Enrichment > 98 %

The isotopic enrichment of the NMR standards is verified by NMR analysis. Figure 1 shows a 2D-NMR spectrum with two superimposed ubiquitin samples:

Triple-labelled ubiquitin ($^2\text{H}^{13}\text{C}^{15}\text{N}$) in blue and double-labelled ubiquitin ($^{13}\text{C}^{15}\text{N}$) in red.

NMR-spectra for all other probes are available at www.silantes-shop.com.

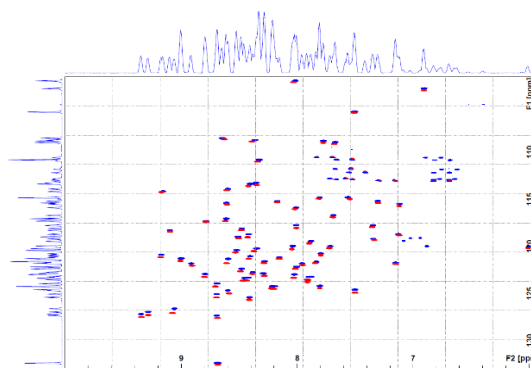


Figure 1: 2D NMR spectra for $^2\text{H}^{13}\text{C}^{15}\text{N}$ - (blue) and $^{13}\text{C}^{15}\text{N}$ - (red) labelled ubiquitin. Data of this figure were kindly provided by Dr. Richter in Prof. Dr. Harald Schwalbe Group, Goethe University Frankfurt.

Chemical Purity > 95 %

The chemical purity of the NMR standards is verified by electrophoresis for ubiquitin (see figure 2) and by ion-exchange chromatography for RNA standards (see figure 3).

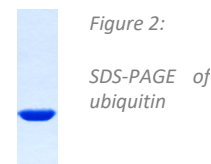


Figure 2:

SDS-PAGE of ubiquitin

Ready-to-use

Our NMR standards are available in both solid powder form and as concentrated solution (550 μL) prepackaged in a ready-to-use 5 mm NMR tube.

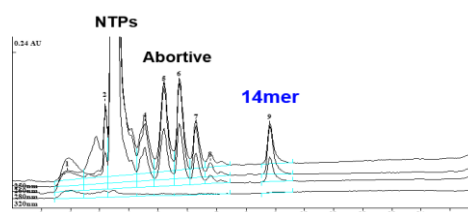


Figure 3: Ion exchange elution profile of a 14mer RNA fragment (5' - pppGGCACUUCGGUGCC - 3')