Silantes
Stable Isotope Labeled Biomolecules

Scan the QR-Code to see our product catalogue of Cell Growth Media.

OD2 Solution Media

Structural studies on proteins using nuclear magnetic resonance (NMR) require labelling of these molecules with stable isotopes. Organisms such as bacteria and yeast are used to express the proteins. The Silantes OD2 Solution Medium is the high-performance line amongst the range of Silantes stable isotope-labelled cell growth media for the expression of stable isotope-labelled proteins.

Ready-to-Use Rich Growth Medium

Silantes OD2 media are rich growth media solutions that are sterile and ready-to-use for fermentation purposes. The media are made from isotopically labelled bacterial hydrolysate and contain primarily amino acids, some low molecular weight oligopeptides and almost no carbohydrates. The bacterial strain used is a chemolithoautotrophic organism grown on isotopically labelled inorganic substrates.

Available in Multiple Variations, Tailored to Your Needs

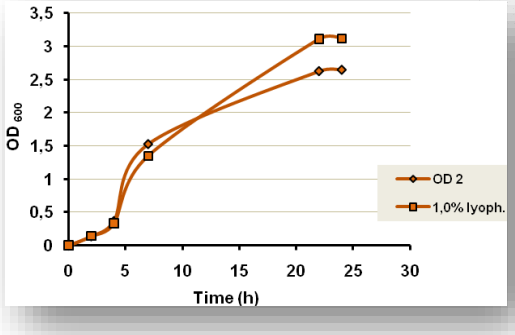
Silantes OD2 Solution Media are pre-adapted for *E.coli* or for yeast. They are available as solution in standard pack sizes (100 mL, 200 mL, 500 mL, 1 L) or in bulk sizes. The media are available in all combinations of the isotopic labels ^{2}H, ^{13}C and ^{15}N. To see the full product portfolio, scan the QR-code in the top-right corner.

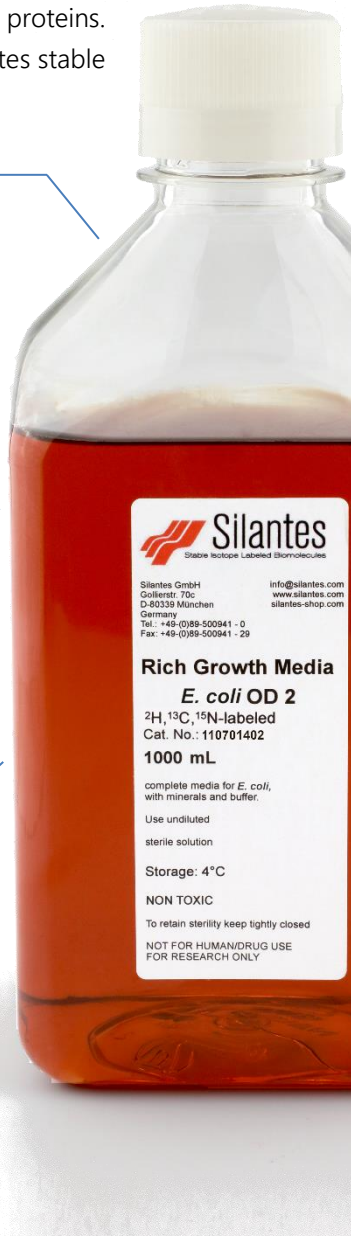
Excellent Performance, especially in D_2O

The Silantes OD2 solution media are developed for a high-performance expression of stable isotope labelled proteins. The media are adjusted in salt conditions formulated for a > OD_{600} 2 cell density. They can be used to grow organisms in H_2O or D_2O, the latter with a 4-fold delay.

Figure 1 shows the growth curve of *E.coli* in ^{2}H-labelled Silantes OD2 Solution Medium for *E.coli*' and in 1 % unlabelled Silantes SILEX Powder Medium for *E.coli* in D_2O. Figure 1 shows that both media have the same excellent performance in D_2O and exceed OD 2.5 in less than 24 hours.

Figure 1: Growth of *E.coli* ^{2}H-labelled Silantes media solution and in Silantes powder media in D2O





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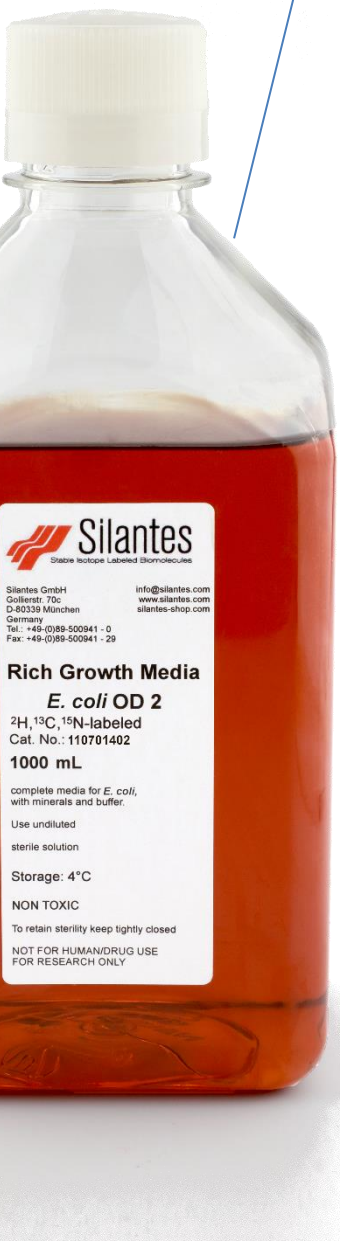


No Additional ^{13}C-Glucose Needed

Silantes OD2 Media are prepared from uniformly labelled bacterial cell hydrolysate of *Ralstonia eutropha*. No additional ^{13}C-glucose is needed to express ^{13}C-labelled proteins with a high degree of efficiency.

Cost-Effective

Figure 2 and 3 show SDS-PAGEs as an example of protein expressions using M9 medium and Silantes OD2 Solution Medium. The proteins are ubiquitin and RNA polymerase α-subunit. The figures show the enhanced yield using Silantes OD2 Solution Medium.

Figure 2: SDS-Page Ubiquitin

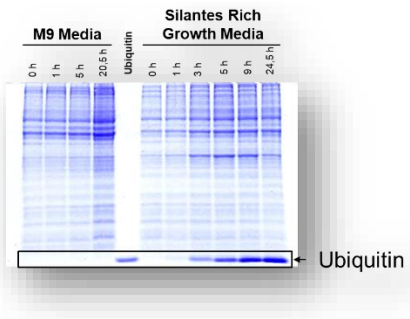
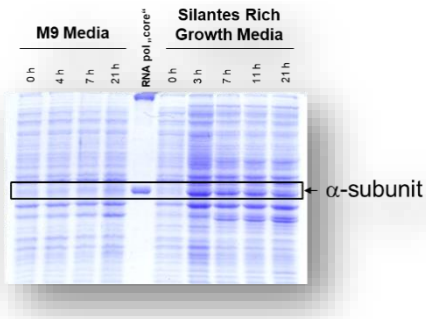


Figure 3: SDS-Page RNA Polym. α-subunit



High Standards in Quality Control

Silantes media are tested for reproducibility of the fermentation results. Moreover, each batch is adjusted to yield the same cell density. The isotopic enrichment of > 98 % is validated by mass spectrometry and the biological competence by growth tests. All test results are included with each delivery.

Request for a free Media sample at sales@silantes.com!

Silantes also offers stable isotope labelled reagents for M9 media such as ^{13}C-glucose, D_2O and $^{15}NH_4Cl$.
Have a look at the currently available Silantes products and services at www.silantes-shop.com