Silantes
Stable Isotope Labeled Biomolecules

E. coli OD Media

Rich growth media
for in vivo enrichment of stable isotopes
Product-N°.: 100001 – 116203

Minimum shelf life is 12 months from receipt, if the following storage conditions are observed.

Storage conditions

- Store away from light at 2° to 8°C
- Keep bottle tightly closed to retain sterility
- Do not autoclave the media, since otherwise precipitates might occur, preventing attainment of full optical density.

Advantages of Silantes OD-Media:

- Rich growth media
- Easy to handle
- High isotopic purity
- Require minimal optimization adjustments
- Ensure high expression yields

Cell Cultivation

Silantes OD media are ready-to-use sterile solutions. Silantes media can be used immediately for the fermentation of your bacteria, requiring only the addition of antibiotics and special nutrients needed for your expression system.

Procedure

(1) Pour media into your sterile culture flask or fermenter.
(2) Add antibiotics and any growth factor required for your expression system to the media.
(3) Inocculate the culture. If you need a high percentage of isotopic labeling, the preculture should also be grown in labeled Silantes OD media.
(4) Grow your culture in an orbital shaker or fermenter until the desired optical density is reached. Ensure that the culture is always sufficiently aerated.
(5) Induce the expression of your protein in the usual way.
(6) Collect your cells.

Aeration

To maintain optimal aeration of your culture use an orbital shaker apparatus which has a capacity of at least 180 rpm. Fill your culture flasks to a maximum of 1/3 of the flask volume.

Glucose content

Silantes media contain less than 30 mg glucose / liter media.

Preset OD Values

Silantes media are available in 5 concentrations. The customer can choose the most economic media for his purpose. The OD level tells you about the amount of enriched compounds in the media, e.g. uninduced bacteria (common strains like BL21 or HB101) grow in Silantes E. coli OD2 media up to an optical density (600 nm) of 2. The OD2 media is mostly used by customers who induce their cells at an OD = 0.6-0.9 followed by a ca. 4 hours incubation. If you are using a fermenter and/or if you grow your culture to higher ODs, then a richer media like Silantes OD4 or OD5 should be used.

Under conventional growth conditions (culture flasks that are aerated in an orbital shaker) the following comparative results are reached:

- Silantes OD1 Media yield cell densities as with a 0,2% glucose-M9 medium
- Silantes OD2 Media yield cell densities as with a 0,4% glucose-M9 medium
- Silantes OD4 to OD5 Media yield cell densities as with like LB-media

Silantes Technology

Silantes OD-Media are made from bacterial hydrolysate supplemented with M9 salts. The bacterial strain used is a chemolithoautotrophic organism which grows on isotopically labeled H_2, O_2 and CO_2.

Deuteration

Deuterated OD-media are also available from Silantes. Growth curves show that bacteria grow exponentially in deuterated Silantes OD media. For most *E. coli* strains there is no need for time consuming adaptation to D_2O. Silantes media that contain D_2O are ready to use.

Free unlabeled Media

To test Silantes OD media with your expression system you can obtain a free unlabeled media sample. Usually we send out 200 ml of unlabeled media for testing purposes.

Safety

For laboratory use only.

Caution: Not for diagnostic use: The safety and efficacy of this product in diagnostic or other clinical uses has not been established.

Contact

For further information on Silantes OD-Media or other Silantes products, please contact Silantes GmbH at:
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