

Product Sheet

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Delvotest® broad spectrum tests

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Description Delvotest® is a system specifically designed to test milk for the presence of antibacterial substances such as antibiotics including sulphonamides. It has been developed for a variety of applications ranging from a single test for the testing of milk from an individual cow at the farmgate to large-scale routine analysis in milk quality payment schemes and milk control laboratories. Cow, goat and sheep milk can be tested using Delvotest.



The test device, consists of ampoules or plates and contains a solid and buffered agar medium including all required nutrients, a standardised number of spores of the test organism *Bacillus stearothermophilus* var. *calidolactis*, an antifolate trimethoprim and a purple coloured pH indicator bromocresol purple (Brilliant black redox indicator in the case of Delvotest BR products). The test kits contain a product insert with instructions for use in different languages.

The principle of the test is based on the diffusion through the agar of possible inhibitory substances that may be present in the milk sample. This reduces growth of the test organism and delays or prevents the agar from changing colour from blue/purple to green/yellow.

The test is especially designed to detect close to, or below regulatory levels most of the antibiotics in the beta-lactam, sulphonamide, amino glycoside, macrolide and tetracycline groups of inhibitors. The use of the test can therefore be integrated into existing milk quality control and milk quality payment schemes. Delvotest® is simple to perform. The test may be used to control all types of milk and milk products as long as appropriate controls are applied.

Equipment Most Delvotest kits can be incubated in the Delvotest Accelerator at a temperature of 63°C (+/-2°C). The Delvotest Accelerator is an automatic test machine.

Delvotest Ampoules can be easily incubated in the MCI incubator. MCI incubators are especially designed to assure a precise and stable incubation temperature for the Delvotest.



All Delvotest products can be incubated at the required temperature of 64°C in a lidded, stirred water bath or a dry incubator. Allow incubation equipment sufficient time to equilibrate at 64°C. The temperature of the water bath should be 64°C ± 2°C and must be checked at various positions but, most importantly, at the level/location of the plate(s) with a calibrated thermometer. Too high, too low, or varying temperatures during incubation will lead to longer test incubation times and may affect the sensitivity of the test.



Condensing water from the lid of the water bath should not drip onto the tests. Do not place the water bath or dry incubator near an open window or other drafty locations and take care that the level of the water does not become too low, as this leads to variations in temperature. The use of a common laboratory incubator, even when equipped with a fan is not advised, as the heat distribution from such equipment and the heat transfer to the agar medium, is not sufficiently constant to obtain reliable test results.

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| Caution | <p>As this test is extremely sensitive to antibacterial substances (antibiotics, sulpha compounds and other components such as disinfectants, detergents etc.) any contamination with these substances should be prevented. It is advisable to thoroughly wash and dry hands before starting the test procedure. Use a clean table.</p> <p>Do not handle the tests roughly since this may loosen the solid agar medium. This can affect the quality of the test colors during reading of the test results.</p> |
| Additional information on reading | <p>Recommended incubation time is for raw milk. Different applications (dairy products) require different incubation times. During storage of the test kit the incubation time may increase gradually. Tests nearing their expiry date will thus require a somewhat longer incubation time than freshly produced ones.</p> <p>The best sensitivity of the test is achieved when reading at control time. This means the time when the negative control sample has turned to yellow.</p> <p>Additional information on the full broad sensitivity spectrum of the test sensitivity is available via your DSM distributor.</p> |
| Storage | <p>The tests should be stored upright in the original packaging, in the dark at a constant temperature below 8°C prevented from freezing (preferably between 4°C and 8°C). Lower temperatures may result in a softening of the contents, leading to loosening of the agar or the formation of air bubbles. Storage at a higher temperature will shorten the shelf life. The expiry date is indicated, together with the batch number, on the package.</p> |
| Sampling | <p>Milk samples should be mixed well and be representative of the milk batch that is to be investigated. When testing individual cow's milk, avoid testing foremilk from the teat. Take care to mix the milk carefully, avoiding the formation of air bubbles or foam. The test is designed for a sample quantity of 0.1 ml(+/-10%) (with the exception of Delvotest BR Ampoules requiring 0.25mL +/- 10%). Under no circumstances should the same disposable pipette be used for more than one sample. As the amount of sample is small, any remaining drops from a preceding, antibiotic-containing sample may cause an incorrect result. Avoid contamination of the syringe by rushing.</p> |
| Milk control samples | <p>To verify the correct conditions of the testing set-up or to determine the optimal incubation time (Delvotest Broad Spectrum tests), a control sample should be tested along with the samples of milk under investigation. This sample should consist of milk that is free of any inhibiting substances. Negative control milk is available from the supplier of Delvotest®. Do not use water as a negative control. Always use the same sample matrix for the control as for the samples to be tested.</p> |
| Storage of milk samples | <p>If it is not possible to test the milk sample within a few hours, it should be stored in a refrigerator at less than 6°C or, if not tested the same day, in a deep-freezer (minus 18°C or colder).</p> |

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