Ribo Technologies
MICROBIAL DIAGNOSTICS

SalScan™

Reliability

Speed

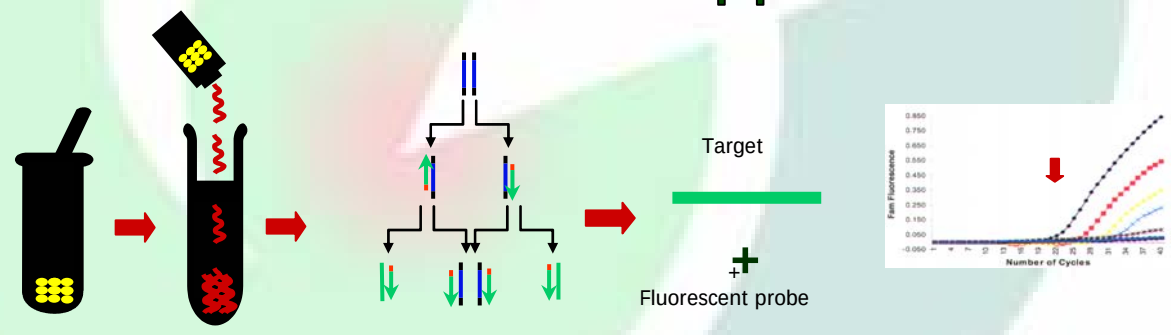
Easy

Food-borne pathogens are still the world's major cause of human health problems. Poultry and raw milk are its most common sources. Salmonella is the most important pathogen responsible for food poisoning worldwide. For safety reasons, European regulation concerning the quasi-totality of food products stipulate a *Salmonella* contamination rate of less than 1 bacteria per 25 grams. As this level is near the lower limit of detection, it means that in practice a total absence of the organism is intended. It is important to note that all types of *Salmonella*, whatever their serotype, are tested for and considered undesirable. Conventional methods are often inadequate for making timely and rapid assessments on the microbiological safety of foods.

Microscreen has developed the SalScan quantitative PCR (Q-PCR) for the detection and identification of *Salmonella* bacteria. The SalScan technique is quantitative and samples can be run within 4 hours. Based on comparative sequence analysis a primer set and a fluorescent marker were designed complementary to DNA regions characteristic for *Salmonella spp.*. The test is positive for serogroups of *Salmonella* and negative for closely related species. The assay can detect as few as 1-10 CFU of *Salmonella spp.*. For the detection of *Salmonella* in food samples standard enrichment cultures are innoculated with food samples that are potentially contaminated with *Salmonella.* An easy to follow protocol is provided for the rapid extraction of pure DNA suitable for use in the SalScan.

Real–time PCR identification and quantification of *Salmonella spp.*

Salmonella Spp.



Isolation of bacteria | **DNA/RNA isolation** | **PCR Amplification** | **Detection** | **Realtime readout**

SalScan

The SalScan, which is developed by Microscreen, is a very fast quantitative Real-time PCR tool for the detection of *Salmonella* bacteria. The *Salmonella* bacteria are isolated from enrichment cultures using centrifugation. DNA from the bacteria is extracted using a standard DNA isolation method. The target DNA is amplified using two specific primers which are unique for *Salmonella spp.*.

A fluorophore binds to the amplified target. Binding of the fluorphore causes an increase in the fluorescent signal. This is visualized as a growth curve in a graph, when the number of PCR cycli is plotted against the fluorescence (see Fig). Assay results are obtained by measuring the increase of fluorescence that occurs during the amplification.