

38266 Ferrioxamine E

Supplementation of pre-enrichment broth and enrichment broth media with ferrioxamine E significantly improved the recovery of *Salmonella*, *Enterobacter sakazakii* and *Yersinia enterocolitica* from artificially or naturally contaminated foods.

Storage:

Ferrioxamine E can be transported by room temperature but for storage use a dry place below 8°C and tightly-sealed containers. Store solutions and prepared media below 8°C, protected from direct light. Stability in solution is at least 6 months.

Directions:

A concentration of ferrioxamine E in the range of 5-200 ng/ml supports growth. Following dilutions are recommended:

Organisms	End Concentration of Ferrioxamine E [ng/ml]
<i>Salmonella</i>	75
<i>Enterobacter sakazakii</i>	150
<i>Yersinia enterocolitica</i>	100

Dissolve 3 mg in 4 ml sterile and distilled water. This stock solution (red-brown) is diluted 1:10 and you get a working solution with 75 µg ferrioxamine E per ml. 1ml would be enough for 1 litre *Salmonella* enrichment medium.

Principle and Interpretation:

Ferrioxamine E provides the essential micro-nutrient iron (III) to the organisms. This leads to a reduced lag-phase in the medium and reactivates damaged bacteria. The ferrioxamine E is often used in Buffered Peptone Water the medium recommended by the ISO-Norms for Enterobacteriaceae. Also, the motility of *Salmonella* is improved which helps to improve the identification by semisolid selective motility media like MRSV, DIASSALM or SMS. It is recommended also for use by isolating small quantities of cells from dried powders like tea, spices etc.. Ferrioxamine E does not improve growth of *E. coli*, *Shigella*, *Proteus*, *Providencia* and *Morganella* species what makes it semiselective.

References:

1. Reissbrodt R, Heier H, Tschape H, Kingsley RA, Williams PH., Resuscitation by ferrioxamine E of stressed *Salmonella enterica* serovar typhimurium from soil and water microcosms., *Appl. Environ. Microbiol.*, 66(9):4128-30 (2000)
2. Reissbrodt R, Vielitz E, Kormann E, Rabsch W, Kuhn H., Ferrioxamine E-supplemented pre-enrichment and enrichment media improve various isolation methods for *Salmonella*., *Int J Food Microbiol.*, 29(1):81-91(1996)
3. Pless, P., and R. Reissbrodt., Improvement of *Salmonella* detection on motility enrichment media by ferrioxamine E-supplementation of pre-enrichment culture., *Int. J. Food Microbiol.*, 27:147-159 (1995)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

