Colilert – Defined Substrate Technology®

Colilert uses the patented Defined Substrate Technology (DST®) to simultaneously detect and confirm total coliforms and *E. coli*. Two nutrient-indicators, ONPG and MUG, are the major sources of carbon in Colilert and can be metabolized by the coliform enzyme ß-galactosidase and the *E. coli* enzyme ß-glucoronidase, respectively.

As coliforms grow in Colilert, they use ß-galactosidase to metabolize ONPG and change it from clear to yellow. *E. coli* uses ß-glucuronidase to metabolize MUG and create fluorescence. Since most non-coliforms do not have these enzymes, they are unable to grow and interfere. The few non-coliforms that do have these enzymes are selectively suppressed by Colilert's specifically formulated matrix.

This approach is different from traditional media, which provide a nutrient-rich environment that supports the growth of both target organisms and non-targets. When non-targets grow and mimic target organisms, false positives occur. Growth of non-targets can also suppress target organisms and give false negatives in traditional media.

To suppress non-targets, traditional media often include high levels of salts, detergents, or other selective agents – which may inadvertently suppress target organisms and give further false negatives.