

Ames MPF YG

The salmonella typhimurium strains YG1021, YG1024 and YG1041 strains are useful tools for the efficient detection of certain classes of genotoxic chemicals in the environment.

Xenometrix offers the media and an instruction manual for testing possibly mutagenic samples with *Salmonella typhimurium* strains YG1021, YG1024 or YG1041 using the proven Ames MPF microplate format.

These strains are plasmid-modified TA98 derivatives and detect mutagenic activity with different chemical sensitivity and specificity than TA98. YG1021 is a nitroreductase (NR) overproducing strain, YG1024 an O-acetyltransferase (OAT) overproducing strain, and YG1041 is a NR and OAT overproducing strain. These metabolically enhanced tester strains show extreme sensitivity to nitroarenes and/or aromatic amines. They are consequently used to test for the presence of nitro-PAHs and/or heterocyclic amines e.g. in contaminated sediments.

The basic YG package comes in two sizes: for 1 or 6 compounds (when tested in triplicates, 6 dilutions, with negative and positive control, with and without S9). Please note that neither bacteria, positive control compounds nor required antibiotics are included in this basic package. The bacteria may be obtained from Dr. T. Nohmi of the National Institute of Hygienic Sciences, Tokyo, Japan.

The assay described in the instruction manual is a slightly modified Ames MPF test procedure adapted for the YG tester strains. It can be used for the TA98-like tester strains and has not been elaborated for other YG strains.

Ames MPF results of three river sediment sample extracts after fractionation in TA98, YG1024, YG1041 and YG1021

