

# Genotoxicity: UMU-C Test (ISO13829)

- **Objective:** to assess the genotoxic potential (gene mutations) of compounds in the absence and in the presence of a rat liver metabolic activation (S9) system

- **Principle:** the UMUC test makes use of a genetically modified (plasmid pSK1002 containing the umu-C-lacZ gene) *S. typhimurium* strain TA1535. The umuC gene that is linked to the lacZ gene is part of the SOS-repair system which becomes active in case of DNA-damage. When lacZ is activated, beta-galactosidase is formed which with addition of a substrate is measured colorimetric.

- **Development Stage:** routine

- **Results / data:** bacterial growth and beta-galactosidase activity are measured. On basis of beta-galactosidase activity, the induction factor for genotoxicity is calculated

- **Applicability Domain:** genotoxic activity of effluents