MUG

A fluorogenic substrate for detecting *E. coli*

MUG Powder, which often refers to as a 4-Methylumbelliferyl b-D-Glucopyranosiduronic acid, plays an essential role in the of β-Glucuronidase activities, a key marker to identify an *Escherichia coli*. It is Fastly identifying *Escherichia coli* contamination in Clinical samples, the food industry, and Water treatments.

When the β-Glucuronidase cleaves on the MUG, it produces a fluorescent compound, enabling easy detections under ultraviolet light. This fluorescence is an indicator of the presence of *Escherichia coli*, that makes the MUG a reliable tool for rapid identification.

In clinical setups, MUG Powders aids promptly detecting *Escherichia coli* infections, albeit ensuring timely treatments and preventing bacterial spreads. Its uses extend in the food industry, wherein it helps, monitors, and prevents *Escherichia coli* contamination in food products.

Furthermore, role of the MUG Powder in drinking water Treatment Ensures safety of the water sources by Quickly identifying any *Escherichia coli* contamination.

Cat. Number	ASC-1019
CAS Number	881005-91-0
Molecular Weight	388.32 g/mol
Molecular Formula	$C_{16}H_{16}O_9.2H_2O$
Storage Temperature	+4 °C
Form and Color	Crystals to crystalline Powder / Colorless to white
Purity (HPLC)	≥ 99%
Specific Optical Rotation [α]D (C= 0.25 in water / 60 °C)	-107 to -103
Solution Appearance (1% in water / 60 °C)	Clear / Colorless
Water Content	8 – 10.2 %
Free 4-MU	≤ 25 ppm
1H-NMR Spectrum	Corresponds to assigned spectrum
Synonym	4-Methylumbelliferyl b-D-glucuronide dihydrate

4-Methylumbelliferyl b-D-Glucopyranosiduronic acid