Product Data Sheet

Product Name: Methyl Green Staining Solution (Chloroform-Extracted, 1%)
Cat. No.: GC81415

Chemical Properties

Cas. No.			
Formula		M.Wt	
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

Methyl Green Staining Solution (Chloroform-Extracted, 1%) is a basic dye stock solution with differential nucleic acid binding activity that distinguishes double-stranded DNA from RNA, and it can

be used for assays related to nucleic acid distribution and DNA localization. Methyl Green Staining Solution (Chloroform-Extracted, 1%) functions by competitively binding to the phosphate groups of nucleic acids and stably binds to intact double-stranded DNA; RNA within the oocyte-specific ribonucleoprotein complex specifically binds to this dye, and RNase completely blocks this binding reaction. The nucleic acid recognition of Methyl Green Staining Solution (Chloroform-Extracted, 1%) depends on the size of the dye cation and the intact double-helical structure of DNA [1] [2].

In Vitro, Methyl Green Staining Solution (Chloroform-Extracted, 1%) specifically labels cytoplasmic RNA and nucleoli in oocytes; the cytoplasmic staining signal is completely eliminated by RNase pretreatment, while DNase only causes weak interference[1]. Methyl Green Staining Solution (Chloroform-Extracted, 1%) combined with Pyronin Y stains somatic cell nuclei green, while the cytoplasm and nucleoli of oocytes show Pyronin-positive staining[1]. Methyl Green Staining Solution (Chloroform-Extracted, 1%) achieves optimal differential metachromatic staining of nucleic acids in paraffin sections fixed with paraformaldehyde-glutaraldehyde; it stains DNA blue-green and RNA reddish-purple, and shows almost no non-specific binding to pure proteins[2].

References:
[1]. Cowden R R. The staining behavior of oocyte cytoplasm with the alcoholic Feulgen variant and with methyl green. Histochemie, 1965, 5:441-447.
[2]. Roque A L, et al. A stain for the histochemical demonstration of nucleic acids. Experimental and Molecular Pathology, 1965, 4(3): 266-274.