Specification

Propidium Iodide *BioChemica* A2261

Physical Description:	Solid
Product Code:	A2261
Product Name:	Propidium Iodide *BioChemica*
Specifications:	Assay (HPLC): min. 94 %
Hazard pictograms	
WGK:	1
Storage:	2-8°C protected from light
Signal Word:	Attention
GHS Symbols:	GHS07 GHS08
H Phrases:	H315 H319 H335 H341
P Phrases:	P261 P305+P351+P338
Molecular Formula:	$C_{27}H_{34}I_2N_4$
M:	668.40 g/mol
CAS:	25535-16-4
EINECS:	247-081-0

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Specification

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CS:	29339980

Comment

Propidium iodide (PI) is - like ethidium bromide (EtBr) - a DNA intercalator and was developed as an anti-Trypanosoma reagent, but never applied as such (1). Today, this fluorescence DNA dye is mainly applied in 'flow cytometry' (2, 3). At a concentration of 1 µg/ml, probably all DNA binding sites are saturated. PI will be excluded by living cells. Hence, only dead or dying cells will be stained. Propidium iodide can be excited by light with wavelenghts in the visible range and bleaches slowly, having clear advantages over DAPI (4).**Stability**: Depending on the reference, there are many recommendations of how to store solutions of Propidium iodide. According to ref. (4) store at +4°C (4) or at room temperature (3) or at -20°C (5) protecetd from light. The informations on the stability of solutions varies from 4-6 months (4) to unlimited (3). It seems that the buffer used is of great importance.**Caution**: Propidium iodide is hazardous, like all chemicals binding selectively to DNA. Propidium iodide (LD_{50} 16 mg/kg, subcutaneous, mouse) is more toxic than ethidium bromide (LD_{50} 110 mg/kg, subcutaneous, mouse).

Bibliography

(1)Waring, M. (1975) Ethidium and Propidium in *Antibiotics* **Vol. III**, pages 141-165; (J.W. Corcoran & F.E. Hahn eds.) Springer-Verlag. (2)Pollack, A. & Ciancio, G. (1990) *Methods Cell Biol.* **33**, 19-24Cell cycle phase-specific analysis of cell viability using Hoechst 33342 and Propidium iodide after Ethanol preservation. (3)Krishan, A. (1990) *Methods Cell Biol.* **33**, 121-125Rapid DNA content analysis by the Propidium iodide-hypotonic citrate method. (4)Running, M.P. *et al.* (1995) *Methods Cell Biol.* **49**, 217-229Confocal microscopy of the shoot apex. (5)Ausubel, F.A., Brent, R., Kingston, R.E., Moore, D.D., Seidman, J.G., Smith, J.A. & Struhl, K. (eds.) (1995) *Current Protocols in Molecular Biology,* page 14.7.10 (Suppl. 31) Greene Publishing & Wiley-Interscience, New York.

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