

Specification

3,3',5,5'-Tetramethylbenzidine *BioChemica*

A3840

Solubility:	insoluble (H ₂ O)
Physical Description:	Solid
Product Code:	A3840
Product Name:	3,3',5,5'-Tetramethylbenzidine <i>BioChemica</i>
Specifications:	Assay (titr.): min. 98 % Residue on ignition: max. 0.2 % Loss on drying: max. 0.5 %
WGK:	2
Storage:	2 - 8°C under argon
Molecular Formula:	C ₁₆ H ₂₀ N ₂
M:	240.35 g/mol
CAS:	54827-17-7
EINECS:	259-364-6
CS:	29215990
Comment	<p>Tetramethylbenzidine (TMB) is used as a chromogenic substrate for the detection of horseradish peroxidase, especially applied in Enzyme Immunoassays (e. g. ELISA). It is more sensitive than o-phenylene diamine or ABTS and more stable and less toxic than diaminobenzidine. TMB has been classified as nontoxic. The color development is generally completed after 10 - 30 minutes at room temperature. The blue color turns to yellow when the reaction is stopped by the addition of 1 M sulfuric acid and the color development is measured at 450 nm. Solubility: TMB is soluble in DMSO, acetone, chloroform, toluene (100 mg/ml) or ethanol 96 % (~30 mg/ml). It is insoluble in water unless TMB forms the dihydrochloride. Stock solutions can be prepared e.g. as 0.01 M solutions (0.24 g/100 ml) up to 1.5 % (1.5 g/100 ml). Solutions are stored at 2-8°C.</p>
Bibliography	<p>(1)Volpe, G. <i>et al.</i> (1998) <i>Analyst</i> 123, 1303-1307 TMB as electrochemical substrate for horseradish peroxidase based immunoassays. A comparative study. (2)Schütz, A.J. <i>et al.</i> (1997) <i>SPIE Proc.</i> 3105, 332-340 Stabilization of Horseradish Peroxidase (HRP) for the Use in Immunochemical Sensors.</p>

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