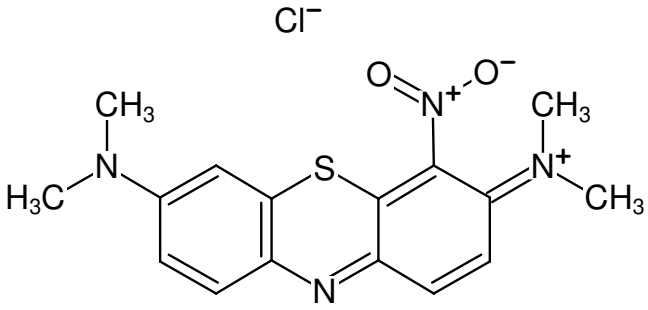
DATA SHEET

Jena Bioscience

JBS Xtal Green

Methylene Green Zinc Chloride double Salt

Cat. No.	Amount
CO-303	300 µl



Structural formula of JBS Xtal Green

For general laboratory use.

Shipping: shipped at ambient temperature

Storage Conditions: store at ambient temperature

Shelf Life: 12 months

Molecular Formula: $C_{16}H_{17}ClN_4O_2S * 0.5\ ZnCl_2$

Molecular Weight: 433.00 g/mol

CAS#: 224967-52-6

Applications:
JBS Xtal Green is a crystal dye used to stain macromolecular crystals, i.e. protein, peptide and nucleic acid crystals in order to differentiate them from small molecules and salt crystals.

Description:
Crystallization screening with high concentrations of precipitant and salt may lead to the formation of salt crystals. It is quite difficult to make a distinction between these false positives and true protein crystals.

Staining of crystals with appropriate dyes is a very straightforward method to differentiate between macromolecular crystals and salt crystals [1].

Protein and salt crystals differ substantially in their solvent content. Small crystal dyes, like JBS Xtal Green, are able to permeate the solvent channels of a protein, thus coloring the protein green. In contrast, salt crystals are tightly packed and do not possess large solvent channels. They will therefore remain colourless.

Usage:
Simply add 0.5 µl of JBS Xtal Green to the crystallization drop containing the crystals of interest.

Coloring Time:
JBS Xtal Green colors protein crystals after a few minutes. Even if the color of the solution is only faintly green under the microscope, proteins will be stained within 5-15 min.
Very occasionally, it has been reported that protein crystals did not absorb crystal dyes [2].

Selected References:
[1] Wilkosz *et al.* (1995) Preliminary characterization of EcoRI-DNA co-crystals: incomplete factorial design of oligonucleotide sequences. *Acta Cryst. D* **51**:938.

[2] Eckert *et al.* (2003) Crystallization and preliminary X-ray analysis of Alicyclobacillus acidocaldarius endoglucanase CelA. *Acta Cryst. D* **59**:139.