**Data Sheet**

**JBS True Blue**
Methylene Blue hydrated

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO-301</td>
<td>300 µl</td>
</tr>
</tbody>
</table>

**For in vitro use only!**

**Shipping:** shipped at ambient temperature

**Storage Conditions:** store at ambient temperature

**Shelf Life:** 12 months

**Molecular Formula:** \( C_{16}H_{18}ClN_3S \cdot H_2O \)

**Molecular Weight:** 319.85 g/mol (anhydrous)

**CAS#:** 61-73-4

**EC number:** 200-515-2

**Applications:**
JBS True Blue 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 True Blue, are able to permeate the solvent channels of a protein, thus coloring the protein blue. 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 True Blue to the crystallization drop containing the crystals of interest.

**Coloring Time:**
JBS True Blue colors protein crystals after a few minutes. Even if the color of the solution is only faintly blue 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 \(^2\).

**Safety Information:**
Methylene Blue is a harmful substance if swallowed. Work carefully and wear gloves when handling the dye. Under fire conditions it emits toxic fumes.
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Selected References: