Cy3B

<table>
<thead>
<tr>
<th>Category</th>
<th>Fluorescent Dyes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modification Code</td>
<td>Cy3B-N</td>
</tr>
<tr>
<td>Reference Catalog Number</td>
<td>26-6907</td>
</tr>
<tr>
<td>5 Prime</td>
<td>Y</td>
</tr>
<tr>
<td>3 Prime</td>
<td>Y</td>
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<tr>
<td>Internal</td>
<td>Y</td>
</tr>
<tr>
<td>Molecular Weight(mw)</td>
<td>678</td>
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</tbody>
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Cy3B modification is a post synthesis conjugation to a primary amino group thus an additional modification with an amino group is required. A C6 or C12 amino group can be placed at the 5' or for the 3' end a C3 or C7 amino and for internal positions an amino modified base is used, e.g Amino dT C6.

Cyanine 3B (Cy3B) is an orange fluorescent dye that belongs to the Cyanine family of synthetic polymethine dyes. Cy3B is reactive, water-soluble, has an absorbance maximum of 559 nm and an emission maximum of 570 nm. It is available as an NHS ester, and is used to fluorescently label oligonucleotides at either the 5'- or 3'-end, or internally. Cyanine dyes normally are capable of cis/trans isomerization around the polymethine, which can lead to loss of fluorescence after excitation, and weaker signal. By contrast, Cy3B is conformationally locked, the dye is not subject to photo-isomerization and improved fluorescent properties (1,2). Consequently, Cy3B is both extremely bright and extremely stable. Cy3B can be used to substitute in any oligonucleotide-based application suitable for Cy3, such as TaqMan probes, Scorpion primers, Molecular Beacons, or Fluorescent In-Situ Hybridization. Like Cy3, Cy3B is most commonly paired with the dark quencher BHQ-2, as the two have excellent spectral overlap. References