Catch and Release of Diols with Boronic Acid Agarose

Nucleotides, cofactors and glycoproteins are metabolic derivatives of carbohydrates. Chemically, they share the presence of cis-1,2- and 1,3-diols as common functional groups. When exposed to boronic acids at a suitable pH, diols are converted into stable boronate esters (Scheme 1).[1] The immobilization of boronic acids on solid support offers a versatile approach to isolate a diverse set of biomolecular diols from complex mixtures, ranging from small molecules[2] to entire glycoproteins[3] and RNAs[4,5]. Amongst the solid support available, agarose stands out for its large exclusion limit (1 x 10⁴ - 4 x 10⁵ Da) and therefore permits the efficient complexation of polymeric biomolecules.[6,7] Capitalizing on the reversibility of boronate ester formation, captured compounds can be easily retrieved under mild conditions for further applications or analysis.

<table>
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<th>Product</th>
<th>Cat.-No.</th>
<th>Size</th>
<th>Price (€)</th>
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<tbody>
<tr>
<td>Immobilized m-Aminophenylboronic acid</td>
<td>AC-160</td>
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Selected References


![Scheme 1](image)