



## Poly divinylbenzene for polypeptide synthesis

<b>Applicants</b>	Università degli Studi Padova, Institute of Chemical Process Fundamentals
<b>Inventors</b>	Karel Jerabek, Libuse Hankova, Ladislav Holub, Marco Zecca, Paolo Centomo, Daniele Trovo, Riccardo Leder, Barbara Biondi
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### TRL scale



### What's needed for?

This patent describes the use of polydivinylbenzene (PDVB) as a support for solid phase polypeptide synthesis (SPPS). Its morphology facilitates the formation of longer polypeptide chains and increases the purity and selectivity of the final product. It can be used with greener solvents, therefore improving the production process from both an economic and environmental point of view.

This invention introduces to use of polydivinylbenzene (PDVB) as a support for SPPS: when dry, it has an elevated ratio of mesopores and an elevated surface area; when swelled, its porosity does not depend much on the type of solvent used for coupling. Such characteristics of PDVB allow for: a good loading capacity; the formation of longer polypeptide chains with high selectivity and purity; the substitution of conventional coupling solvents, such as N,N-dimethylformamide (DMF), with solvents with a minor environmental impact, such as acetonitrile. The use of PDVB for SPPS is therefore an opportunity to improve the economic outcome and lower the environmental impact of the polypeptide production process.

### Advantages

- Less toxic solvents required; Can be used with a greater range of solvents
- Greater versatility of the reaction conditions
- Greater product yield
- Greater size of polypeptides produced

### Applications

- Solid phase synthesis of polypeptides and other macromolecules (SPPS)
- Active Pharmaceutical Ingredient (API) industry