Poly divinylbenzene for polypeptide synthesis

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What we are looking for

We are looking for a suitable partner to enter into license deal/co-development partnership

What's needed for?

Our invention has introduced the use of polydivinylbenzene (PDVB) as the support for the 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.

Dry PDVB has a high proportion of mesopores and a very high specific surface area. In the swollen (working) state, its porosity very little depends on the type of the solvent used for coupling, at variance with conventional supports. These features 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

TRL scale

1 2 3 4 5 6 7 8 9

Chemistry, Physics, New Materials

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