

6-Hydroxymethylpterin-diphosphate, lithium salt

Product number 11.438

*6HMPPP is unstable at room temperature and is light sensitive. Stored at room temperature, it produces 0.3% monophosphate per day.**

In a 1 l round bottom flask are filled 152 g of pyrophosphoric acid. 10.8 g of 6-hydroxymethylpterin (sieved and dried) are added and mixed thoroughly with a plastic stick.

The mixture is heated in a 65°C oil bath for 3 hours and mixed with the plastic stick from time to time.

54 g of P₂O₅ are added, heated in a 110°C oil bath for 70 minutes and mixed with the plastic stick from time to time.

The flask is removed from the oil bath and set aside overnight.

The flask is cooled in an ice/water bath, 50 g of ice are added and mixed thoroughly.

2 l of EtOH are added. The mixture is stirred and after that 4 l of EtOAc are added.

The flask is placed in a fridge (-30°C) over night.

The precipitation is filtered through a 15 cm filtering funnel. The filter cake is rinsed with EtOAc and then dried by evacuation with a three-stage diaphragm pump. The dry precipitation is stored in a freezer.

The raw 6-hydroxymethylpterin-diphosphate is purified by **column chromatography** with Dowex 1X8 as stationary phase. *Please see the "General instructions for working with pteridines".*

Column diameter: 18 cm, height of the stationary phase: 18 cm

The column is washed with:

- 1M HCl
- H₂O
- 0.5M LiOH
- H₂O

The crude 6-hydroxymethylpterin-diphosphate is suspended in 1.5 l of water and dissolved by the addition of 1 M LiOH.

This solution is pumped on the top of the Dowex and subsequently the following solutions are pumped through the column:

- 0.15 M LiCl
- 0.25 M LiCl
- 0.40 M LiCl

We let the column run also during the night with a timer, so that the column chromatography can be carried out quickly.*

The monophosphate appears first, followed by the diphosphate.

The blue fluorescent fractions are collected and examined by HPLC (HPLC conditions see Data Sheet).

All 6-hydroxymethylpterin-diphosphate containing solutions must always be protected from light.

The best fractions are collected and evaporated to a few ml. 700 ml cold EtOH are added and the flask is stored in a fridge overnight.

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The precipitated 6-hydroxymethylpterin-diphosphate is filtered, the filter cake is slowly rinsed with cold EtOH and dried in a vacuum desiccator over a lot of NaOH to give 4.6 g of 6-hydroxymethylpterin-diphosphate.

Purity: 98.5% (HPLC)

Description: light yellow powder

Data Sheet: There is a data sheet available for this compound.

Data sheets can be found in the price list by clicking on the product number of your choice.