

## **2,4,5(5-<sup>15</sup>N)-triamino-6-hydroxypyrimidine dihydrochloride**

Product number 10.011

Solution 1:

185 ml of acetic acid are stirred and cooled to about 10°C.

Solution 2:

10.6 g of finely ground 2,4-diamino-6-hydroxypyrimidine in 35 ml of water are dissolved by slowly adding 7M NaOH. To this solution 6.3 g of Na<sup>15</sup>NO<sub>2</sub> are added. The resulting solution is poured in a dropping funnel and slowly added to solution 1 at about 15°C.

After heating to boiling, the mixture was allowed to cool.

The bright rose precipitation was collected by filtration, washed well with water and dried in a vacuum desiccator over NaOH to give 12 g of the 5-nitroso derivative.

For the hydrogenation of 10 g of the 5-nitroso derivative we used 600 ml of 1N HCl and 500 mg of PtO<sub>2</sub>. The hydrogenation equipment is described in the chapter "General instructions for working with pteridines". See also the instruction for the hydrogenation of neopterin.

After about 20 hours the hydrogenation is completed.

The Pt is filtered out and the filtrate is evaporated to about 80 ml by means of a rotary evaporator. A glass stopcock is added and the round bottom flask is evacuated. The flask is placed in a freezer for 3 days and then the precipitation is filtered.

The residue is dried in a vacuum desiccator over NaOH to give 12.0 g of 2,4,5(5-<sup>15</sup>N)-triamino-6-hydroxypyrimidine dihydrochloride.

Purity: 97.8% (HPLC)

Instructions for the synthesis of L-biopterin starting with 2,4,5 -triamino-6-hydroxypyrimidine dihydrochloride can be found in my thesis:

Bernhard Schircks, "Neue regiospezifische Synthese von L-Biopterin und von dessen Derivaten" (Dissertation-Zurich, 1978)