

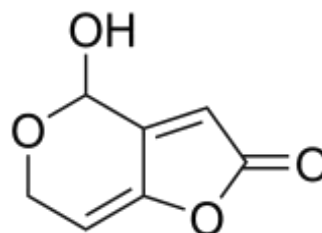
## Patulin *BioChemica*

from *Penicillium expansum*

**Product No. A7910**

### Description

<b>Formula:</b>	C <sub>7</sub> H <sub>6</sub> O <sub>4</sub>
<b>Molecular weight:</b>	154.12 g/mol
<b>CAS-No.:</b>	149-29-1
<b>Assay (HPLC):</b>	~ 98 %
<b>Melting point:</b>	105 - 111°C
<b>Storage &amp; Stability:</b>	-20°C, protected from light. Stored frozen, Patulin is stable for at least two years.
<b>Solubility (10 mg/ml DMSO):</b>	clear, colorless



### Comment

Patulin is a cytostatic, antibacterial mycotoxin derived from the metabolites of a number of fungi (*Aspergillus spp.*, *Penicillium spp.*, *Gymnoascus spp.*). It is commonly found in rotting apples. A number of studies have shown that it is genotoxic, and, it has been found to be carcinogenic in rats (2; 3). Due to its toxicity Patulin is not suitable for use in humans, even if it has a wide antibiotic activity (1; 4).

**Mode of action:** Patulin inhibits the potassium uptake and activates the p38 kinase. It induces ion flux across cell membranes, potentially involving Na<sup>+</sup>-K<sup>+</sup> dependent ATPase. It also induces intra- and intermolecular protein crosslinking.

Patulin is used e.g., to study patulin contamination of bottled wine (5), DNA-damaging activity of patulin in *Escherichia coli* (6), and characterization of CYP619 cytochrome P450s involved in patulin biosynthesis (7).

**Solubility:** Patulin is soluble in water, DMSO, ethyl acetate (~50 mg/ml), methanol and ethanol. It is unstable in alkaline conditions resulting in a loss of its biological activity (1). Also polar solvents like water or methanol might its stability.

### Literature:

1. Cole R.J. and Cox R.H. (1981) Handbook of Toxic Fungal Metabolites, Eds., Academic Press p. 511.
2. Dickens F. and Jones H.E.H. (1961) Brit. J. Cancer, 15, 85.
3. Dickens F. et al. (1966) Brit. J. Cancer, 20, 134.
4. Boyd, E.M. (1944) Can. Med. Assoc., 50, 159.
5. Gonzalo A. Díaz, Lina Yañez, et al. (2011) Am. J. Enol. Vitic. 62, 542-546.
6. Lee K.S. and Röschenthaler R.J. (1986) Appl. Environ. Microbiol. 52, 1046-1054.
7. Artigot M.P., Loiseau N. et al. (2009) Microbiology 155, 1738-1747.