



## RayBiotech, Inc.

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# Certificate of Analysis and Data Sheet

## Recombinant Urate Oxidase

**Catalog No.**  
228-11600

**Source**  
*Escherichia Coli.*

### **Synonyms**

Urate Oxidase, Uricase, Urate Oxygen, Oxidoreductase, UOX, UO, EC 1.7.3.

### **Introduction:**

Urate oxidase catalyzes the enzymatic oxidation (degrades) of uric acid into allantoin, an inactive and soluble metabolite, which is 5 to 10 fold more soluble than uric acid. Urate oxidase is an enzyme of the purine breakdown pathway that catalyses the oxidation of uric acid to allantoin. Uricase is present in numerous diverse organisms, but not in higher primates including human. Hyperuricaemia is most commonly associated with gout and also occurs in mammals with malignancy, especially those with lymphoid malignancies due to rapid cell turnover and an increased rate of purine metabolism. Uricase is effective in the prevention and treatment of hyperuricaemia in mammals with malignancy and in those who have undergone transplantation. It appears to act rapidly, safely and induces a more dramatic decrease in plasma levels of uric acid.

### **Description**

Urate Oxidase Recombinant produced in E.coli is a tetrameric, non-glycosylated polypeptide chain containing 302 amino acids, having a molecular formula of  $C_{1523}H_{2383}N_{417}O_{462}S_7$  and a molecular mass of 34,247 Dalton.

The cDNA coding for urate-oxidase was cloned from a strain of *Aspergillus flavus*. The monomer protein has no intra- or inter-disulfide bridges.

### **Physical Appearance**

Sterile Filtered White lyophilized (freeze-dried) powder.

### **Formulation**

Each 1.5mg Uricase contains 5mg sucrose, 25mg glycine, 0.1mg Tween-80, 13.6 mg  $Na_2HPO_4 \cdot 12H_2O$  and 0.33 mg  $NaH_2PO_4 \cdot 2H_2O$ .

### **Solubility**

We highly recommend reconstituting the lyophilized Uricase in 50mM borate buffer containing 0.001% Triton X-100 and 1.0mM EDTA, pH 8.5 for activity assay.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### ***Stability***

Lyophilized Urate Oxidase although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Uricase should be stored at 4°C between 2-7 days and for future use below -18°C.

**Please prevent freeze-thaw cycles.**

### ***Purity***

Greater than 96.0% as determined by (a) Analysis by RP-HPLC.  
(b) Analysis by SDS-PAGE.

### ***Biological Activity***

The specific activity was found to be 10U/mg.

One Unit oxidizes one micromole of uric acid per minute at 25°C, at pH 8.5.

### ***Amino acid sequence***

msavkaaryg kdnvrvykvh kdektgvqtv yemtvcvlle geietsytka  
dnsvivatds ikntiyitak qnpvtppelf gsilgthfie kynhihaahv  
nivchrwtrm didgkphphs firdseekrn vqvdvvegkg idiksslsgl  
tvlkstnsqf wgflrdeytt lketwdrils tdvdatwqwk nfsglqevrs  
hvpkfdatwa tarevtlktf aednsasvqa tmykmaeqil arqqlietve  
yslpmkhyfe idlshkglq ntgknaevfa pqsdpnglik ctvgrsslks kl.

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