Creative Enzymes®

xanthine oxidase

Cat. No. EXWM-1088

Lot. No. (See product label)

Introduction

Description An iron-molybdenum flavoprotein (FAD) containing [2Fe-2S] centres. Also oxidizes hypoxanthine, some other purines and pterins, and aldehydes, but is distinct from EC 1.2.3.1, aldehyde oxidase. Under some conditions the product is mainly superoxide rather than peroxide: RH + H2O + 2 O2 = ROH + 2 O2.- + 2 H+. The mammalian enzyme predominantly exists as an NAD-dependent dehydrogenase (EC 1.17.1.4, xanthine dehydrogenase). During purification the enzyme is largely converted to the O2-dependent xanthine oxidase form (EC 1.17.3.2). The conversion can be triggered by several mechanisms, including the oxidation of cysteine thiols to form disulfide bonds [which can be catalysed by EC 1.8.4.7, enzyme-thiol transhydrogenase (glutathione-disulfide) in the presence of glutathione disulfide] or limited proteolysis, which results in irreversible conversion. The conversion can also occur in vivo.

Synonyms hypoxanthine oxidase; hypoxanthine:oxygen oxidoreductase; Schardinger enzyme; xanthine oxidoreductase; hypoxanthine-xanthine oxidase; xanthine:O2 oxidoreductase; xanthine:xanthine oxidase

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.17.3.2

CAS No. 9002-17-9

Reaction xanthine + H2O + O2 = urate + H2O2

Notes This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage Store it at +4 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃.