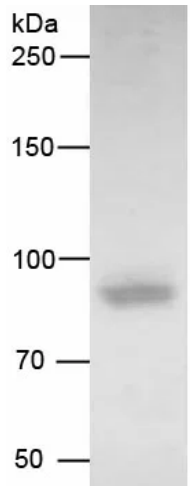
# Active Amine Oxidase, Copper Containing 3 (AOC3)

*Catalog#:PHM12834*

## 概述（Summary）

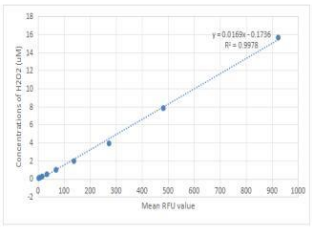
| | |
|---|---|
| **别称（Alternative Names）** | VAP1; HPAO; SSAO; Membrane primary amine oxidase; Vascular Adhesion Protein 1; Semicarbazide-Sensitive Amine Oxidase; Copper-Containing Amine Oxygen Oxidoreductase |
| **纯度（Purity）** | Greater than 90% as determined by reducing SDS-PAGE. |
| **内毒素（Endotoxin level）** | Please contact with the lab for this information |
| **蛋白构建（Construction）** | 【Arg28-Asn765】 |
| **Accession #** | O70423 |
| **表达宿主（Host）** | 293F |
| **种属（Species）** | Mus musculus (Mouse) |
| **预测分子量（Predicted MW）** | 83.4 kDa |
| **制剂（Form）** | Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300. |
| **运输方式（Shipping）** | The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below. |
| **稳定性&储存（Stability &Storage）** | 12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles. |
| **复溶（Reconstitution）** | Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex. |
| **背景介绍（References）** | Cell adhesion protein that participates in lymphocyte recirculation by mediating the binding of lymphocytes to peripheral lymph node vascular endothelial cells in an L-selectin-independent fashion. Has a monoamine oxidase activity. May play a role in adipogenesis. |

## 电泳图（SDS-PAGE image）




Greater than 90% as determined by reducing SDS-PAGE.

## 活性图（Bioactivity image）




| RFU (544/590) | $H_2O_2$ (product) uM |
|---|---|
| 922.91 | 15.625 |
| 481.51 | 7.8125 |
| 272.81 | 3.90625 |
| 138.01 | 1.953125 |
| 69.05 | 0.9765625 |
| 33.86 | 0.48828125 |
| 15.68 | 0.244140625 |
| 6.82 | 0.122070313 |
| 2.55 | 0.061035156 |

**Figure 1. The standard curve of $H_2O_2$**

One unit of enzyme activity is defined as the 1 µg of enzyme required to convert 1 pmol of benzylamine to $H_2O_2$ in 1min at 37°C. The specific activity of recombinant mouse AOC3 is > 6 pmol/min/µg.

Specific Activity (pmol/min/µg)= $\frac{\Delta OD * F}{T * N}$

△OD=Adjusted for Substrate Blank
F=Conversion Factor (convert from standard curve of $H_2O_2$)
T= Time
N=Amount of enzyme

Amine Oxidase, Copper Containing 3 (AOC3) is a copper amine oxidase with a topaquinone cofactor. AOC3 is a Type II integral membrane protein, but a soluble form of the enzyme is present in human serum, and its level increases in diabetes and some inflammatory liver diseases. AOC3 catalyzes the oxidative deamination of small primary amines such as methylamine, benzylamine, and aminoacetone in a reaction that produces an aldehyde, ammonia, and H2O2. The enzyme is sensitive to inhibition by semicarbazide. AOC3 expression is highest in the endothelium of lung, heart, and intestine, but low in tissues such as brain, spleen, kidney, and liver. The activity of recombinant mouse AOC3 was measured by its ability to produce hydrogen peroxide during the oxidation of benzylamine. The reaction was performed in 50 mM HEPES, pH 7.5 (assay buffer), initiated by addition 50 µL of various concentrations of AOC3 (diluted by assay buffer) to 50 µl substrate mixture of 2 mM Benzylamine, 2 units/mL HRP and 100 µM AUR. Read at excitation and emission wavelengths of 544 nm and 590 nm (top read), respectively in kinetic mode for 5 minutes.

## 注意事项（Note）

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