

Corning® Supersomes™ Ultra Human Aldehyde Oxidase

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Aldehyde Oxidase (AO) is a cytosolic enzyme that plays an important role in non-CYP mediated drug metabolism and pharmacokinetics. AO has garnered significant attention in the pharmaceutical industry due to multiple drug failures during clinical trials that were associated with the AO pathway and an increase in the number of aromatic aza-heterocycle moieties found in drug leads that have been identified as substrates for AO. Traditionally, recombinant AO (rAO) is expressed in bacteria. However, this approach has disadvantages such as different protein post-translation modifications that lead to different function as compared to mammalian cells. Corning has developed Corning Supersomes Ultra Aldehyde Oxidase, a recombinant human AO enzyme utilizing a mammalian cell-based expression system to address these issues. This product will enable early assessment of the liability of AO for drug metabolism and clearance.

Corning Supersomes Ultra Human Aldehyde Oxidase has been over-expressed in HEK-293 cells and exhibited a significantly higher activity as compared to AO expressed in *E. coli*. Time-dependent enzyme kinetics, using known substrates and inhibitors, between the rAO and the native form found in human liver cytosol produced a good correlation.

Features and Benefits of Corning Supersomes Ultra Aldehyde Oxidase

Mammalian cell expression system

Corning Supersomes Ultra AO have been engineered in HEK-293 mammalian cells, thereby eliminating the biosafety concerns associated with baculovirus.

Stable and reliable *in vitro* tool

Corning Supersomes Ultra AO are a stable and reliable *in vitro* tool for the study of AO-mediated metabolism, which provides a quantitative contribution of drug clearance.

Significantly higher activity

Corning Supersomes Ultra AO are a robust and consistent screening platform that delivers significantly higher activity and lower background as compared to bacterial expression systems.

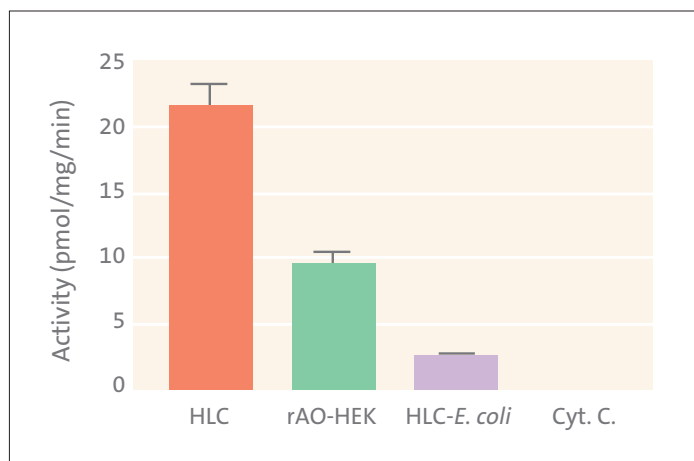
Applications

- ▶ Reaction phenotyping – refining of human dosing prediction
- ▶ Provide a quantitative contribution to the overall drug clearance
- ▶ Mechanistic studies of metabolism

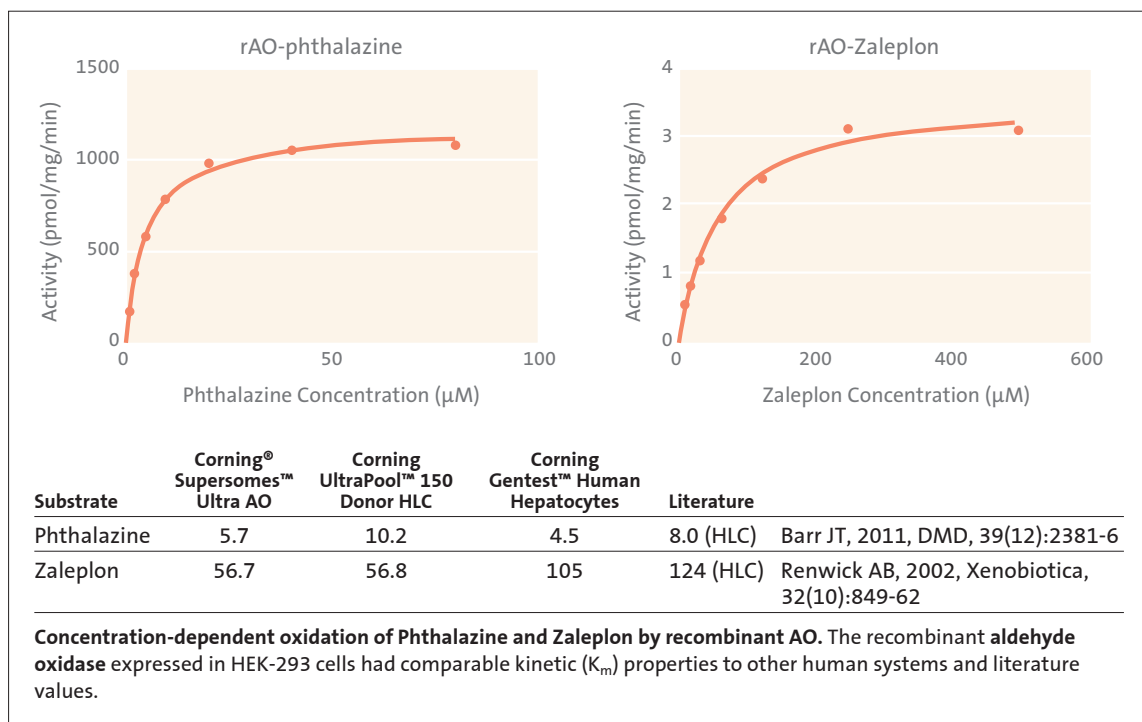


Corning Supersomes Ultra Human Aldehyde Oxidase Performance

Activity Comparison Utilizing Probe Substrate (Zaleplon, 250 μ M)



Kinetic Analysis of Substrates in rAO, HLC, and Hepatocytes



Ordering Information

Cat. No.	Description	Protein Concentration (mg/mL)	Qty (mL)
456800	Corning Supersomes Ultra HEK293-derived negative control cytosol	5	0.5
456801	Corning Supersomes Ultra HEK293-derived human Aldehyde Oxidase (AOX1) cytosol	5	0.5

For more specific information on claims, visit the Certificates page at www.corning.com/lifesciences.

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