

DESCRIPTION

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| Species Reactivity | Human |
| Specificity | Detects human VAP-1/AOC3 in direct ELISAs and Western blots. In Western blots, 50% cross-reactivity with recombinant mouse VAP-1/AOC3 is observed. |
| Source | Monoclonal Mouse IgG _{2B} Clone # 393112 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | <i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human VAP-1/AOC3 Gly27-Asn763 Accession # Q16853 |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

| | Recommended Concentration | Sample |
|---------------------|---------------------------|---|
| Western Blot | 1 µg/mL | Recombinant Human VAP-1/AOC3 (Catalog # 3957-AO) under reducing conditions only |

PREPARATION AND STORAGE

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| Reconstitution | Reconstitute at 0.5 mg/mL in sterile PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| Stability & Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

BACKGROUND

Vascular adhesion protein-1 (VAP-1), also called AOC3 (amine oxidase copper-containing 3) or SSAO (semicarbazide-sensitive amine oxidase), is a copper amine oxidase with a topaquinone cofactor. VAP-1 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 (1, 2). Human and mouse VAP-1 share 83% amino acid sequence identity. VAP-1 catalyzes the oxidative deamination of small primary amines such as methylamine, benzylamine, and aminoacetone in a reaction that produces an aldehyde, ammonia, and H₂O₂ (3). The enzyme is sensitive to inhibition by semicarbazide. VAP-1 expression is highest in the endothelium of lung, heart, and intestine, but low in tissues such as brain, spleen, kidney, and liver (4). VAP-1 vascular expression is regulated at sites of inflammation through its release from intracellular granules in which the protein is stored (5). The adhesive function of VAP-1 has been demonstrated in studies showing that the protein is important for the adherence of certain lymphocyte subtypes to inflamed endothelial tissues (6). VAP-1 mediated adhesion is involved in the process of leukocyte extravasation, an important feature of inflammatory responses. The role of VAP-1 amine oxidase activity in this process is not fully defined, but it appears to be carbohydrate-dependent (7). VAP-1 is considered to be a therapeutic target for diabetes, oxidative stress, and inflammatory diseases (8).

References:

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7. Salmi, M. and J. Jalkanen (1996) *J. Exp. Med.* **183**:569.
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