Datasheet for ABIN7566429

# Recombinant anti-ISM1 antibody

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## Overview

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| Quantity: | 100 µg |
| Target: | ISM1 |
| Reactivity: | Human, Mouse |
| Host: | Mouse |
| Antibody Type: | Recombinant Antibody |
| Clonality: | Monoclonal |
| Conjugate: | This ISM1 antibody is un-conjugated |
| Application: | Western Blotting (WB), ELISA |

## Product Details

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| Purpose: | anti-Isthmin-1, mAb (rec.) (Giusepi-1-4) |
| Immunogen: | Recombinant human Isthmin-1. |
| Clone: | Giusepi-1-4 |
| Isotype: | IgG2b lambda |
| Characteristics: | Recombinant Antibody. Recognizes human and mouse Isthmin-1. Isotype: Mouse IgG2blambda. Immunogen: Recombinant human Isthmin-1. Applications: ELISA, WB. Liquid. In PBS and 0.02 % Proclin-300. Isthmin-1 (ISM1) was first identified as a gene expressed in the Xenopus midbrain hind brain organizer called isthmus, with a proposed role during early brain development. Isthmin-1 encodes a predicted ~50- kDa protein containing a signal peptide, a thrombospondin domain and an adhesion-associated domain. Isthmin-1 is important for embryonic and postnatal development. Growing evidence has shown that aberrant expression |

of Isthmin-1 can also affect the biological behavior of cancer. The Ism1 gene is conserved in mice and humans. A recent study showed that Isthmin-1 is an adipokine that induces glucose uptake in human and mouse adipocytes. Isthmin-1 is secreted by mature adipocytes and triggers a signaling cascade similar to that of insulin, regulating glucose uptake while suppressing lipid accumulation. Recombinant Isthmin-1 or overexpression of Isthmin-1 causes a robust increase in GLUT4-dependent glucose uptake in cultured primary murine and immortalized human adipocytes as well as in primary human muscle cells and prevents insulin resistance and hepatic steatosis in a diet-induced obesity mouse model. Ablation of Isthmin-1 causes glucose intolerance and impaired insulin-stimulated adipocyte glucose uptake. Isthmin-1 suppresses de novo lipogenesis and increases protein synthesis in hepatocytes whereas Isthmin-1 knockdown in adipocytes reduces glucose uptake and insulin-dependent phosphorylation of protein kinase AKT at serine residue 473 (p-AKTSer473). Isthmin-1 signaling is dependent on PI3K and shares downstream phosphorylation targets with insulin signaling, such as p-AKTSer473, p-AKTThr308, p-ERK1/2Thr202/Tyr204 and p-S6Ser235/236. Isthmin-1 does not seem to act through the insulin receptor or the insulin-like growth factor 1 receptor, it is most likely to signal through another, yet-to-be-identified, receptor tyrosine kinase.
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## Product Details

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| | through another, yet-to-be-identified, receptor tyrosine kinase. |
| Purification: | Puified |
| Purity: | >95 % (SDS-PAGE) |

## Target Details

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| Target: | ISM1 |
| Alternative Name: | Isthmin-1 (ISM1 Products) |

## Application Details

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| Application Notes: | Optimal working dilution should be determined by the investigator. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Concentration: | 1 mg/mL |
| Buffer: | In PBS and 0.02 % Proclin-300. |
| Handling Advice: | After opening, prepare aliquots and store at -20 °C. Avoid freeze/thaw cycles. |
| Storage: | 4 °C,-20 °C |
| Storage Comment: | +4°C<br>Stable for at least 1 year after receipt when stored at -20°C. |