

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Midkine in direct ELISAs and Western blots. In direct ELISAs, approximately 20% cross-reactivity with recombinant human Midkine is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse Midkine Gly89-Asp140 Accession # P12025
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
	*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Midkine (MK; also Retinoid acid-induced differentiation factor) is a secreted heparin-binding member of the very small pleiotrophin family of proteins. Although its predicted MW is 13 kDa, it runs anomalously at 15-17 kDa in SDS-PAGE. MK is strongly expressed in the embryo, but is known to be secreted in the adult by endothelium, preadipocytes, proximal renal tubular epithelium, and CD4⁺ T cells. MK has multiple activities, including the inhibition of regulatory T cell production, the promotion of adipocyte formation, and the induction of chemokine production by smooth muscle, the clustering of Ach receptors on myoblasts, and the migration of embryonic neurons plus neutrophils and macrophages. It has multiple receptors, including heparin and chondroitin sulfate, LRP-1, nucleolin, ALK, and PTP-zeta. Mature mouse midkine is 118 amino acids (aa) in length (aa 23-140). It possesses two distinct domains, an N-terminal domain spanning aa 23-71, and a C-terminal domain that encompasses aa 81-140. The C-terminal domain is further divided into two basic amino acid clusters that bind heparin. There are two splice variants reported for mouse midkine. One shows a deletion of aa 39-103, while another shows a deletion of aa 80-133. Midkine will form a covalent, crosslinked homodimer through the action of tissue type II transglutaminase. Full-length mature mouse MK (aa 23-140) shares 97% and 86% aa sequence with full-length rat and human MK, respectively.

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