

**ChemWhat Technical Data Sheet (TDS)**

---

<b>Catalog Number:</b>	147-18
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 13.2 kDa, a single non-glycosylated polypeptide chain containing 120 amino acids.
<b>Quantity:</b>	5µg/20µg/1000µg
<b>AA Sequence:</b>	VAKKKDKVKK GSECSEWTWG PCTPSSKDCG MGFREGTCGA QTQRIHCKVP CNWKKEFGAD CKYKFESWGA CDGSTGTKAR QGTLKKARYN AQCQETIRVT KPCTSKTKSK AKAKKGKGD
<b>Purity:</b>	> 97 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human neutrophils is in a concentration range of 10-100 ng/ml.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH7.4.
<b>Endotoxin:</b>	Less than 0.1 EU/µg of rRtMidkine as determined by LAL method.
<b>Reconstitution:</b>	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at ≤ -20°C. Further dilutions should be made in appropriate buffered solutions.
<b>Shipping:</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage:</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"><li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li><li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	<b>ChemWhat Limited in UK offers this branded product for research, development or further evaluation purposes. NOT FOR HUMAN USE.</b>

---

***Rat Midkine***

Midkine, also named MK, MK1, NEGF 2, is belonging to the neurotrophic and developmentally-regulated heparin-binding molecules family and it is encoded by the MDK gene. Midkine includes five intrachain disulfide bonds which held two domains and there are three antiparallel beta-sheets in each domain. A chondroitin sulfate proteoglycan, protein-tyrosine phosphatase zeta (PTPzeta), is a receptor for MK. MK promotes the growth, survival, and migration of various cells, and plays roles in neurogenesis and epithelial mesenchymal interactions during organogenesis. The predicted molecular weight is approximately 13.2 kDa, based on a mature peptide length of 118 amino acid residues in the mouse and 121 amino acid residues in the human. Mature rat midkine shares 99 % and 91 % a.a. sequence identity with human and murine midkine, respectively.