

**Recombinant Human Tumor Necrosis  
Factor-alpha/TNFSF2, Variant  
(rHuTNF- $\alpha$ /TNFSF2, Variant)  
ChemWhat Technical Data Sheet (TDS)**

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<b>Catalog Number:</b>	103-01V
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 16.9 kDa, a single non-glycosylated polypeptide chain containing 151 amino acids. Compared with the wild-type, rHuTNF- $\alpha$ Variant has an amino acid sequence (a.a.) deletion from a.a. 1-7, and the following a.a. substitutes Arg8, Lys9, Arg10 and Phe157 which is proven to have more activity and with less inflammatory side effect in vivo.
<b>Quantity:</b>	10 $\mu$ g/50 $\mu$ g/1000 $\mu$ g
<b>AA Sequence:</b>	MRKRKPVAVH VANPQAEGQL QWLNRRANAL LANGVELRDN QLVVPSEGLY LIYSQVLFKG QGCPSTHLL THTISRIVS YQTKVNLLSA IKSPCQRETP EGAEAKPWYE PIYLGGVFQL EKGDRLSAEI NRPDYLDFAE SGQVYFGIIA F
<b>Purity:</b>	> 98 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by a cytotoxicity assay using murine L929 cells is less than 0.01 ng/ml, corresponding to a specific activity of > 1.0 $\times$ 10 <sup>8</sup> IU/mg in the presence of actinomycin D.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 $\mu$ m filtered concentrated solution in PBS, pH 7.0.
<b>Endotoxin:</b>	Less than 1 EU/ $\mu$ g of rHuTNF- $\alpha$ /TNFSF2, Variant 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 $\leq$ -20 $^{\circ}$ 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>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"><li>● 12 months from date of receipt, -20 to -70 <math>^{\circ}</math>C as supplied.</li><li>● 1 month, 2 to 8 <math>^{\circ}</math>C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 <math>^{\circ}</math>C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	ChemWhat Limited in UK offers this branded product for research, development or further evaluation purposes. <b>NOT FOR HUMAN USE.</b>

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***Human Tumor Necrosis Factor-alpha/TNFSF2, Variant***

The clinical use of the potent antitumor activity of TNF- $\alpha$  has been limited by the proinflammatory side effects including fever, dose-limiting hypotension, hepatotoxicity, intravascular thrombosis, and hemorrhage. Designing clinically applicable TNF- $\alpha$  mutants with low systemic toxicity has been an intense pharmacological interest. TNF- $\alpha$ , which binds to the murine TNF-R55 but not to the murine TNF-R75, exhibits retained antitumor activity and reduced systemic toxicity in mice compared with murine TNF- $\alpha$ , which binds to both murine TNF receptors. Many TNF- $\alpha$  mutants that selectively bind to TNF-R55 have been designed. These mutants displayed cytotoxic activities on tumor cell lines in vitro, and exhibited lower systemic toxicity in vivo.

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