

## IVMB0497

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### Product Information

<b>Product SKU:</b> IVMB0497	<b>Clone:</b> MOR-208	<b>Target:</b> CD19
<b>Size:</b> 500 µg		<b>Isotype:</b> Human IgG1k

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### Additional Information

<b>Reactivity:</b> Human	<b>Host Species:</b> Human
<b>Antibody Type:</b> Biosimilar Recombinant Human Monoclonal Antibody	<b>Expression Host:</b> HEK-293 Cells

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### Immunogen Information

**Background:** CD19 is a B cell surface glycoprotein that enhances B cell receptor signaling and tumor cell proliferation <sup>1</sup>. CD19 is an attractive immunotherapy target for cancers of lymphoid origin due to its early and persistent expression throughout B cell maturation <sup>2</sup>.

Tafasitamab is a humanized anti-CD19 monoclonal antibody developed by MorphoSys AG under a license from Xencor for the treatment of B cell malignancies <sup>1</sup>. The chimeric antibody was engineered by combining the variable region genes of mouse anti-CD19 antibody (clone 4G7) with human light chain  $\kappa$  and heavy chain constant regions <sup>1,2</sup>. Light and heavy chain constructs were co-transfected into 293E cells and antibodies were purified using protein A chromatography <sup>2</sup>. Additionally, the Fv of 4G7 was humanized, affinity-matured using library design automation, and substitutions S239D/I332E were introduced to increase Fc $\gamma$  receptor affinity to human <sup>2</sup>, mouse <sup>2</sup>, and cynomolgus monkey <sup>3</sup> Fc $\gamma$ R<sub>s</sub>, with Fc $\gamma$ R11a affinity being particularly enhanced <sup>2</sup>.

Tafasitamab mediates B cell lysis via apoptosis and immune effector mechanisms including antibody-dependent cellular cytotoxicity (ADCC) <sup>2,4</sup> and antibody-dependent cellular phagocytosis <sup>2</sup>. Tafasitamab also increases antiproliferative activity and inhibits lymphoma growth in mouse xenograft models. ADCC is mediated by natural killer cells <sup>5</sup> through a granzyme B-dependent mechanism that is further enhanced by lenalidomide <sup>6,7</sup>.

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Tafasitamab is also known as XmAb5574 <sup>1</sup>.

<b>Endotoxin Level:</b>	< 1.0 EU/mg as determined by the LAL method
<b>Applications:</b>	ELISA
<b>Synonyms:</b>	Tafasitamab, MOR-00208, MOR-208, CD19
<b>Antigen Distribution:</b>	CD19 is a surface antigen present on all B cells (healthy and malignant) except hematopoietic stem cells and plasma cells; it is highly conserved in B-cell malignancies.
<b>Immunogen:</b>	Human CD19
<b>Formulation:</b>	This biosimilar antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.
<b>Specificity:</b>	Tafasitamab activity is directed against human CD19.
<b>Recommended Isotype</b>	Human IgG1
<b>Controls:</b>	
<b>Storage &amp; Handling:</b>	Functional grade biosimilar antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at -80°C. Avoid Repeated Freeze Thaw Cycles.