CLAIMS

1. An Fc silenced anti-oxMIF antibody, comprising a variant Fc region of a wild-type human IgG comprising SEQ ID NO:1 with one or more amino acid substitutions or glycosylation modifications, and the following variable domains:

(a1) a light chain variable domain comprising SEQ ID NO:2 with 1, 2, 3, 4, or 5 amino acid substitutions selected from M30L, F49Y, A51G, P80S, W93F, or

(a2) a light chain variable domain comprising SEQ ID NO:2 with 1, 2, 3, 4, or 5 amino acid substitutions selected from M30L, F49Y, A51G, P80S, W93F and with 1, 2, 3, 4, or 5 further amino acid substitutions, with the proviso that the

- conserved tyrosine at position 36 is preserved,

and

(b1) a heavy chain variable domain comprising SEQ ID NO:3; or

(b2) a heavy chain variable domain comprising SEQ ID NO:3 with 1 or 2 amino acid substitutions selected from L5Q and W97Y, or

(b3) a heavy chain variable domain comprising SEQ ID NO:3 with 1 or 2 amino acid substitutions selected from L5Q and W97Y, and 1, 2, 3, 4 or 5 further amino acid substitutions;

wherein amino acid positions are numbered according to Kabat,

wherein the variant Fc region exhibits decreased FcγR binding compared to the wildtype IgG1 Fc region, wherein the one or more amino acid substitutions in the variant Fc region are at any one of positions E233, L234, L235, G236, G237, P238, D265, S267, H268, N297, S298, T299, E318, L328, P329, A330, P331 of SEQ ID NO:1, specifically the amino acid substitutions are at positions L234 and L235, according to EU numbering index, and/or wherein the Fc region is aglycosylated , and

wherein said antibody has reduced aggregation potential and reduced hydrophobicity compared to an antibody comprising SEQ ID NO:2 and SEQ ID NO:3 lacking the amino acid substitutions.

2. The Fc-silenced anti-oxMIF antibody of claim 1, wherein the light chain variable domain comprises the amino acid substitution W93F and the heavy chain variable region comprises the amino acid substitution W97Y.

3. The Fc silenced anti-oxMIF antibody of claim 1 or 2, comprising variable domains comprising an amino acid sequence selected from the group consisting of SEQ ID NOs:4, 5, 6, 7, 8, 9, and 43.

4. The Fc-silenced anti-oxMIF antibody of claims 1 to 3 comprising
i.) SEQ ID NOs:3 and 6,
ii.) SEQ ID NOs:9 and 6,
iii.) SEQ ID NOs:4 and 6,
iv.) SEQ ID NOs:4 and 8,
v.) SEQ ID NOs:4 and 5, or
vi.) SEQ ID NO:43 and any one of SEQ ID NOs:5, 6 or 8.

5. The Fc-silenced anti-oxMIF antibody of claim 4, further comprising SEQ ID NO:14.

6. The Fc-silenced anti-oxMIF antibody of any one of claims 1 or 2, comprising an amino acid sequence selected from the group consisting of SEQ ID NOs:15 and 16 or of SEQ ID NO 15 and 17.

7. The Fc-silenced anti-oxMIF antibody of any one of claims 1 to 6, selected from the group consisting of bispecific antibodies, scFv-Fc, $(scFv)_2$-Fc, scFv/scFv-Fc, Fab/scFv-Fc, Fab/$(scFv)_2$-Fc, Fab/Fab-scFv-Fc, Fab/Fab-crossFab-Fc, IgG-scFv and IgG-$(scFv)_2$.

8. The Fc-silenced anti-oxMIF antibody of any one of claims 1 to 7, wherein said antibody is a bispecific antibody, further comprising at least one binding site specifically recognizing an epitope of CD3 or histamine-succinyl-glycine (HSG).

9. The Fc-silenced antibody of any one of claims 1 to 8, for use in the preparation of a medicament.

10. A pharmaceutical composition comprising the antibody of any one of claims 1 to 8, optionally together with a pharmaceutical carrier or adjuvant.

11. The pharmaceutical composition of claim 10, wherein said pharmaceutical composition is formulated for subcutaneous administration.

12. The pharmaceutical composition of claim 10 or 11, wherein the composition is for administration as the sole substance, or for administration with further active substances, preferably selected from the group consisting of antiviral, anti-cancer, anti-inflammatory, and antibiotic substances.

13. The pharmaceutical composition of any one of claims 10 to 12 for use in the treatment of a patient suffering from inflammatory disease, infectious disease, specifically in the treatment of asthma, vasculitis, arthritis, sepsis, septic shock, endotoxic shock, toxic shock syndrome, acquired respiratory distress syndrome, glomerulonephritis, inflammatory bowel disease, Crohn's disease, ulcerative colitis, peritonitis, nephritis, NASH (nonalcoholic steatosis hepatitis), multiple sclerosis, acute and chronic pancreatitis, Type 1 diabetes, IgA nephropathy, interstitial cystitis, post COVID syndrome and psoriasis, or for use in the treatment of a patient suffering from hyperproliferative disorder or cancer, specifically in the treatment of colorectal cancer, ovarian cancer, breast cancer, prostate cancer, pancreas cancer, gastric cancer, and lung cancer.

14. An isolated nucleic acid encoding the antibody of any one of claims 1 to 8.

15. An expression vector comprising the nucleic acid of claim 14.

16. Use of the pharmaceutical composition of any one of claims 10 to 12 in the manufacture of a medicament for the treatment of a patient suffering from inflammatory disease, infectious disease, specifically in the treatment of asthma, vasculitis, arthritis, sepsis, septic shock, endotoxic shock, toxic shock syndrome, acquired respiratory distress syndrome, glomerulonephritis, inflammatory bowel disease, Crohn's disease, ulcerative colitis, peritonitis, nephritis, NASH (nonalcoholic steatosis hepatitis), multiple sclerosis, acute and chronic pancreatitis, Type 1 diabetes, IgA nephropathy, interstitial cystitis, post COVID syndrome and psoriasis, or for the treatment of a patient suffering from hyperproliferative disorder or cancer, specifically for the treatment of colorectal cancer, ovarian cancer, breast cancer, prostate cancer, pancreas cancer, gastric cancer, and lung cancer.