CLAIMS:

1. A modified membrane type serine protease 1 (MT-SP1) polypeptide or catalytically active fragment thereof, comprising an amino acid replacement in an MT-SP1 polypeptide, wherein:

the amino acid replacement is T98P or both T98P and F99L, based on chymotrypsin numbering in an unmodified MT-SP1 polypeptide;

the mutant MT-SP1 polypeptide and catalytically active fragment, which contains the amino acid replacement(s), exhibit increased substrate specificity for a complement protein target substrate compared to the MT-SP1 polypeptide not containing the amino acid replacement(s).

2. The modified MT-SP1 polypeptide or catalytically active fragment thereof of claim 1, comprising the amino acid replacement T98P.

3. The modified MT-SP1 polypeptide or catalytically active fragment thereof of claim 1 or claim 2, comprising amino acid replacements T98P and F99L.

4. The modified MT-SP1 polypeptide or catalytically active fragment thereof of any of claims 1-3, wherein:

the unmodified MT-SP1 polypeptide comprises the sequence of amino acids set forth in SEQ ID NO:253 or 515; and the catalytically active portion comprises the sequence of amino acids set forth in SEQ ID NO: 505 or 507; or

the unmodified MT-SP1 polypeptide has 95% or more sequence identity with the unmodified MT-SP1 polypeptide set forth in SEQ ID NO:253, or a catalytically active portion thereof set forth in SEQ ID NO:505.

5. The modified MT-SP1 polypeptide or catalytically active fragment thereof of any of claims 1-4, wherein the modified MT-SP1 polypeptide or catalytically active portion thereof comprises up to 2, 3, 4, 5, 6, 7, 8, 9 or 10 amino acid replacements compared to the unmodified MT-SP1 polypeptide set forth in SEQ ID NO:253 or 505.

6. The modified MT-SP1 polypeptide or catalytically active fragment thereof of any of claims 1-5, wherein the unmodified MT-SP1 consists of the sequence of amino acids set forth in SEQ ID NO:507 or 515, whereby the modified MT-SP1 polypeptide comprises an amino acid replacement corresponding to the amino acid replacement C122S, based on chymotrypsin numbering.