WHAT IS CLAIMED IS:

1. A cell culture method comprising:

    a. providing a cell culture medium sufficient to support cell growth, wherein the cell culture medium comprises N-acetylcysteine; and

    b. culturing a cell in the cell culture medium, wherein the cell is an NS0 cell,

    wherein the N-acetylcysteine is at a concentration of from about 0.25 mM to about 3mM.

2. A method of increasing cell viability, increasing cell growth rate or reducing cell doubling time comprising:

    a. providing a cell culture medium sufficient to support cell growth, wherein the cell culture medium comprises N-acetylcysteine; and

    b. culturing a cell in the cell culture medium, wherein the cell is an NS0 cell,

    wherein the N-acetylcysteine is at a concentration of from about 0.25 mM to about 3mM.

3. The method of any one of claims 1 or 2, wherein the cell culture medium is a serum free and animal-protein free medium.

4. The method of any one of claims 1-3, wherein the cell culture medium is a chemically-defined medium.

5. The method of any one of claims 1-4, wherein the cell culture medium comprises: a carbon source, essential and non-essential amino acid sources, vitamins, inorganic salts, trace metals, pH buffers, surfactants, antioxidants, lipids, and cholesterol.

6. The method of any one of claims 1-5, wherein the cell culture medium comprises N-acetylcysteine at a concentration of from about 0.5 mM to about 2.5 mM, or from about 1.0 mM to about 1.5 mM.

7. The method of any one of claims 1-6, wherein the cell culture medium comprises N-acetylcysteine at a concentration of about 1 mM to about 1.5 mM.

8. The method of any one of claims 1-7, wherein the average doubling time is shorter than in a cell culture with a control medium excluding N-acetylcysteine or is reduced by at least about 10%, at least 15%, at least 20%, at least 25% or at least 50% compared to a cell

culture medium without N-acetylcysteine, optionally wherein the average cell doubling time is 60 hours or less, 42 hours or less, 34 hours or less, 30 hours or less, or about 29 hours or less.

9. The method of any one of claims 1-8, wherein the cell viability is increased over a cell culture with a control medium excluding N-acetylcysteine or is increased by at least about 5%, at least 7%, or at least 10% compared to a cell culture medium without N-acetylcysteine or wherein cell viability is at least about 90%, at least 92% or at least 93%.

10. The method of any one of claims 1-9, wherein the cells express a heterologous protein, optionally wherein the heterologous protein is transiently expressed or stably expressed.

11. The method of any one of claims 1-10, wherein the cells are transformed with a heterologous nucleic acid, optionally wherein the heterologous nucleic acid is cDNA, a vector, a plasmid, a nucleic acid operably linked to a promoter, and/or a nucleic acid that incorporates into the genome.

12. The method of claim 10, wherein the heterologous protein is an antibody or antigen-binding fragment thereof, optionally wherein the antibody or antigen-binding fragment thereof is an IL-13 antibody.

13. The method of claim 12, wherein the antibody is BAK502G9 or an antigen-binding fragment thereof; or wherein the antibody or antigen binding fragment has a heavy chain variable region comprising a sequence that is at least about 80% identical to any one of SEQ ID NOs: 1, 9, 17, or 25 and a light chain variable region comprising a sequence that is at least about 80% identical to any one of SEQ ID NOs: 2, 10, 18, or 26; or wherein the antibody or antigen binding fragment comprises:

    a. a heavy chain variable region comprising:

        i. a HC CDR1 that has one mutation compared to a sequence chosen from SEQ ID NOs: 3, 11, 19, or 27;

        ii. a HC CDR2 that has one or two mutations compared to a sequence chosen from SEQ ID NOs: 4, 12, 20, and 28; and

        iii. a HC CDR3 that has one or two mutations compared to a sequence chosen from SEQ ID NOs: 5, 13, 21, and 29; and

b. a light chain variable region comprising:

i. a LC CDR1 that has one mutation compared to a sequence chosen from SEQ ID NOs: 6, 14, 22, and 30;

ii. a LC CDR2 that has one or two mutations compared to a sequence chosen from SEQ ID NOs: 7, 15, 23, and 31; and

iii. a LC CDR3 that has one or two mutations compared to a sequence chosen from SEQ ID NOs: 8, 16, 24, and 32.

14. A composition comprising

a. cell culture medium comprising N-acetylcysteine, a carbohydrate source, an amino acid source, and a cholesterol source; wherein the cell culture medium comprises N-acetylcysteine at a concentration of from about 0.25 mM to about 3 mM; and optionally further comprises yeastolate, and

b. NS0 cells.