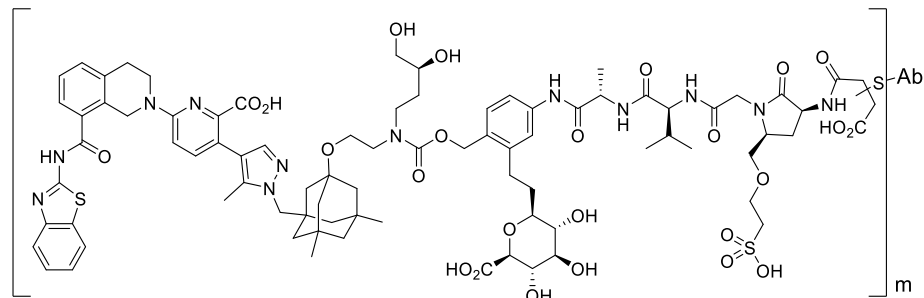


WE CLAIM:

1. An anti-human epidermal growth factor receptor (hEGFR) antibody-drug conjugate comprising the following structure:

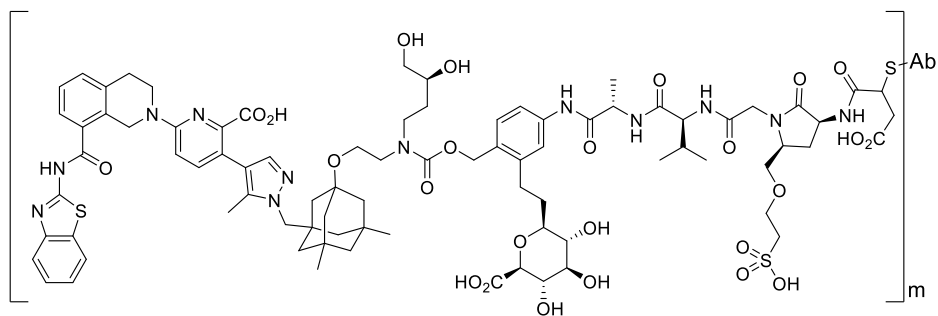


(I),

wherein Ab is an IgG1 anti-hEGFR antibody comprising a heavy chain comprising the amino acid sequence set forth as SEQ ID NO: 1 and a light chain comprising the amino acid sequence set forth as SEQ ID NO: 5; and wherein m is 2.

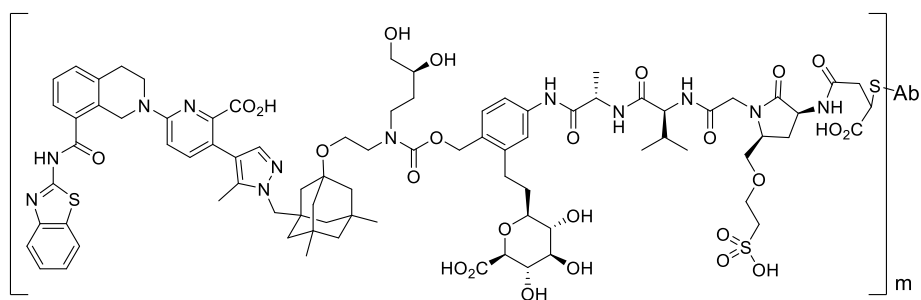
2. The antibody-drug conjugate of claim 1, wherein the structure of formula (I) is conjugated to antibody Ab through C220 of the heavy chain.

3. The ADC of claim 1, comprising the structure of formula (II):



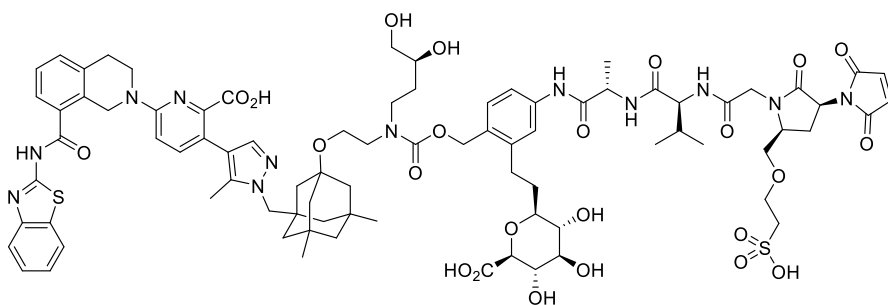
(II).

4. The ADC of claim 1, comprising the structure of formula (III):



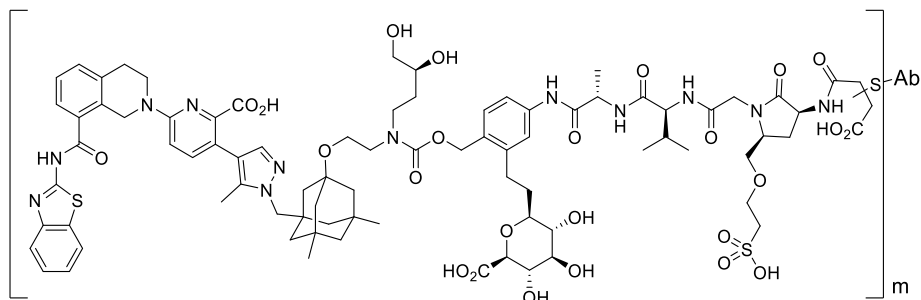
(III).

5. A method of producing an antibody drug conjugate (ADC) comprising a step of conjugating a monoclonal human IgG₁ anti-EGFR antibody with a synthon comprising the structure:



to form an antibody-drug conjugate comprising a drug-linker conjugated to the anti-EGFR antibody, wherein the anti-EGFR antibody comprises a heavy chain comprising the amino acid sequence set forth as SEQ ID NO: 1 and a light chain comprising the amino acid sequence set forth as SEQ ID NO: 5; and wherein said drug-linker is conjugated to said antibody through C220 of the heavy chain.

6. A process for the preparation of an anti-human Epidermal Growth Factor Receptor antibody-drug conjugate comprising the following structure:

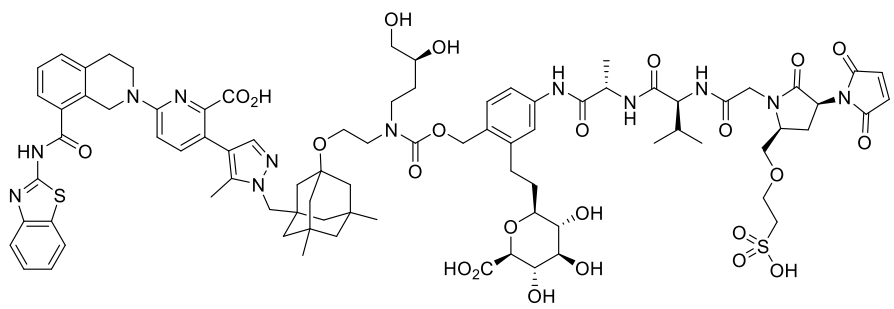


(I)

wherein Ab is an IgG1 anti-human epidermal growth factor receptor antibody comprising a heavy chain comprising the amino acid sequence set forth as SEQ ID NO: 1 and a light chain comprising the amino acid sequence set forth as SEQ ID NO: 5; and wherein m is 2; the method comprising the process comprising:

treating an antibody in a buffered aqueous solution with an effective amount of a disulfide reducing agent for about 16-24 hours;

adding to the reduced antibody solution a solution of dimethyl acetamide comprising a synthon having the following structure:



allowing the reaction to run to form the ADC;

wherein the mass is shifted by 18 ± 2 amu for each hydrolysis of a succinimide to a succinamide as measured by electron spray mass spectrometry; and

wherein the ADC is optionally purified by hydrophobic interaction chromatography.

7. An antibody-drug conjugate prepared according to any one of claims 5 or 6.
8. Use of the antibody-drug conjugate of any one of claims 1-4 in the manufacture of a medicament for treating non-small cell lung cancer.
9. A pharmaceutical composition comprising an effective amount of the antibody-drug conjugate of any one of claims 1-4 and a pharmaceutically acceptable carrier.
10. An antibody-drug conjugate of any one of claims 1-4 for use in therapy.