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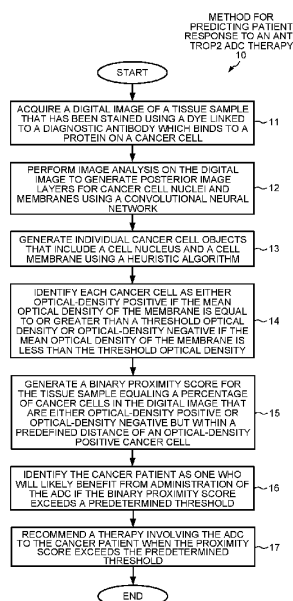


FIG. 13

(57) Abstract: A method for predicting how a cancer patient will respond to an antibody drug conjugate (ADC) therapy involves computing a predictive response score by performing statistical operations on the staining of each cancer cell in a tissue sample. The ADC includes an ADC payload and an ADC antibody that targets the trophoblast antigen 2 (TROP2) protein in the cancer cells. The tissue sample is stained using a dye linked to a diagnostic antibody that binds to the protein. Cancer cells in digital images of tissue are detected. The statistical operations are performed for each cancer cell based on the staining intensities of the dye in the membrane and/or cytoplasm of each cancer cell and/or in the membranes of neighboring cancer cells. The response of the cancer patient to the ADC therapy is predicted based on whether the results of the statistical operations exceed various clinically derived thresholds.

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