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(54) Title: CTLA-4-BASED LYSOSOMAL DEGRADERS AND USES THEREOF

(57) Abstract: The present disclosure provides a method for degrading a target protein, comprising: contacting a T-cell with a multi-specific binding protein, wherein the multispecific binding protein comprises: a) a first cell surface binding moiety that specifically binds to membrane-bound CTLA-4 on the surface of the T-cell; and b) a second binding moiety that is operatively linked to the first cell surface binding moiety and that specifically binds to the target protein, wherein binding of the multispecific binding protein to the membrane-bound CTLA-4 on the surface of the T-cell facilitates the internalization of the target protein by the T-cell. After internalization, the multispecific binding protein plus the target protein traffic to a lysosome within the T-cell, enabling degradation of the target protein within the lysosome. The present disclosure also provides multispecific binding protein compositions, host cells for making the multispecific binding protein compositions, and methods of using the multispecific binding protein compositions to treat disease.



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