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(54) **INSULIN-GOLD NANOCLUSTER, PHARMACEUTICAL COMPOSITION FOR REDUCING BLOOD GLUCOSE COMPRISING THE SAME, AND METHOD FOR DETECTING ADIPOSE CELLS IN TISSUE BY USING THE SAME**

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(58) **Field of Classification Search**  
None  
See application file for complete search history.

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(57) **ABSTRACT**

An insulin-gold nanocluster, a pharmaceutical composition for treating diabetes comprising the insulin-gold nanocluster, and a method for detecting adipose cells in a tissue by using the insulin-gold nanocluster are provided. Herein, the insulin-gold nanocluster of the present invention comprises: a gold nanocluster, and insulin connecting to the gold nanocluster, wherein the insulin-gold nanocluster emits red fluorescence at maximized wavelength of 670 nm.

**10 Claims, 4 Drawing Sheets**