## **Supporting information**



**Fig S1.** a) Bright field photograph of co-cultured 293T cells in the state of suspension. b) NIR-II imaging of co-cultured 293T cells in the state of suspension and c) after centrifugation in the 1) QDs-Glu group and 2) QDs-Glu-EVs group.



**Fig S2.** Bright field photograph of the 293T cells of a1-a3) the QDs-Glu-EVs group compared with b1-b3) the QDs-Glu group in a time course (0 h, 3 h and 12 h after co-culture) (scale bars represent 200 μm).



**Fig S3.** Establish of sciatic nerve crush injury animal model and EVs treatment. a) Exposure of the sciatic nerve. b) Crush the sciatic nerve and mark the proximal site of injury area. c) EVs injection at the proximal site of injury area.



**Fig S4.** a) Schematic illustration of sensory recovery based on pain sensation. b) Measurements of the pain sensation of rats after injury between the QDs-Glu-EVs group and the QDs-Glu group.



SFI picture of rats in the QDs-Glu-EVs group and the QDs-Glu group rats from pre-injury to 28 d post-injury.

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**Fig S5.** SFI picture of rats in the QDs-Glu-EVs group and the QDs-Glu group rats from pre-injury to 28 d post-injury.