

MXene-Based Protective Strategy for Diabetic Gingival Wound Healing: Shielding Fibroblasts from Oxidative Stress

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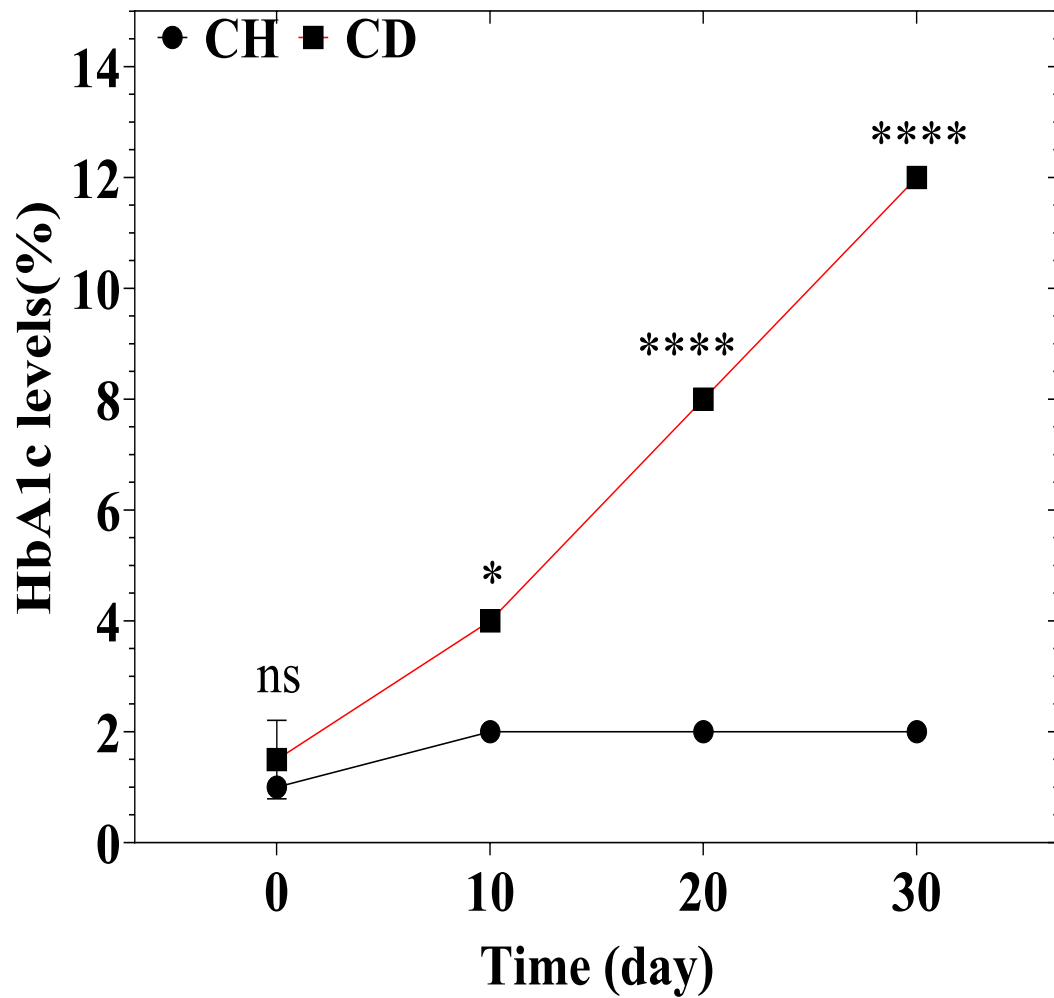


Figure S1. Characteristics of diabetic animal model included in the study stratified by HbA1C levels on control health (CH), control diabetic (CD) after 0, 10, 20 and 30 days. Values represented as mean \pm SD (n = 5). ns=no significant, *P < 0.05; and ****P < 0.0001 compared with the control health (CH) group.

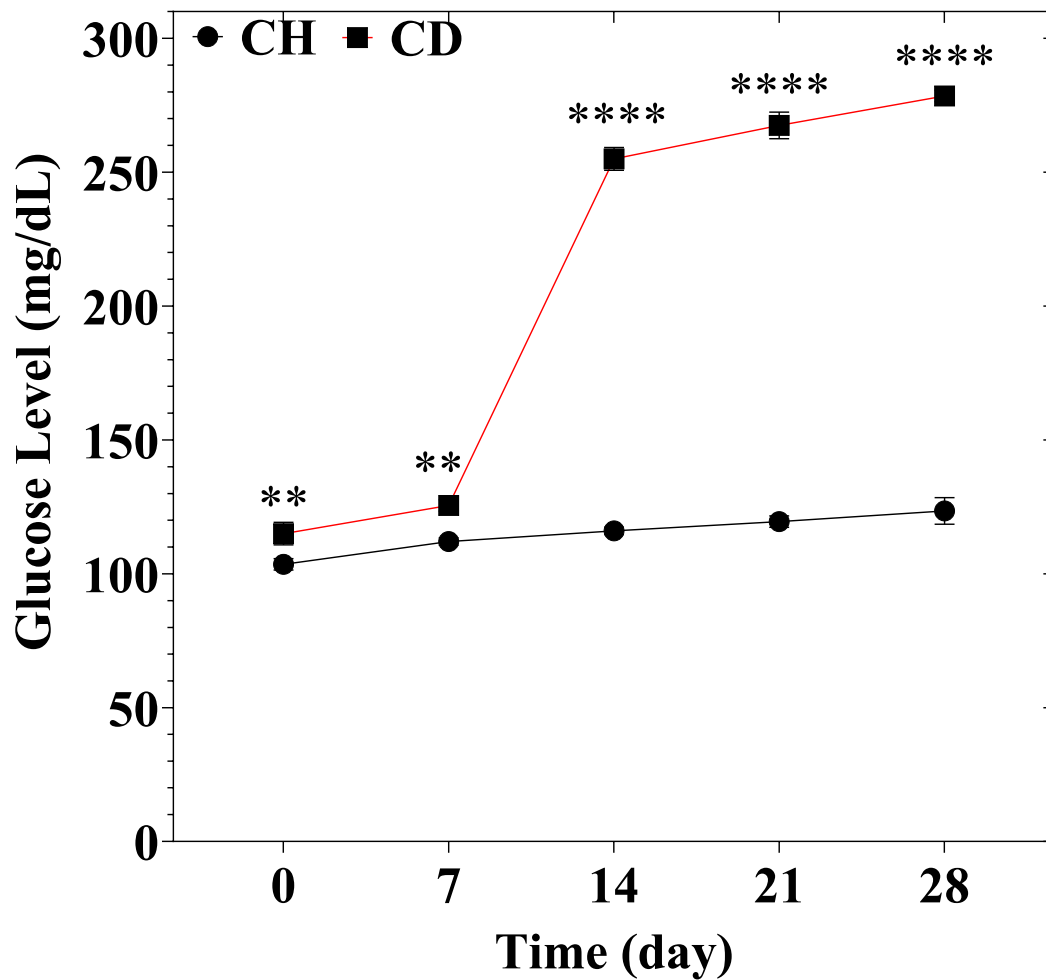


Figure S2. Characteristics of diabetic animal model included in the study stratified by glucose (mg/dL) levels on control health (CH), control diabetic (CD) after 0, 10, 20 and 30 days. Data represented as mean \pm SD of data determined from three separate experiments. Values represented as mean \pm SD (n = 5). **P < 0.01 and ****P < 0.0001 compared with the control health (CH) group.

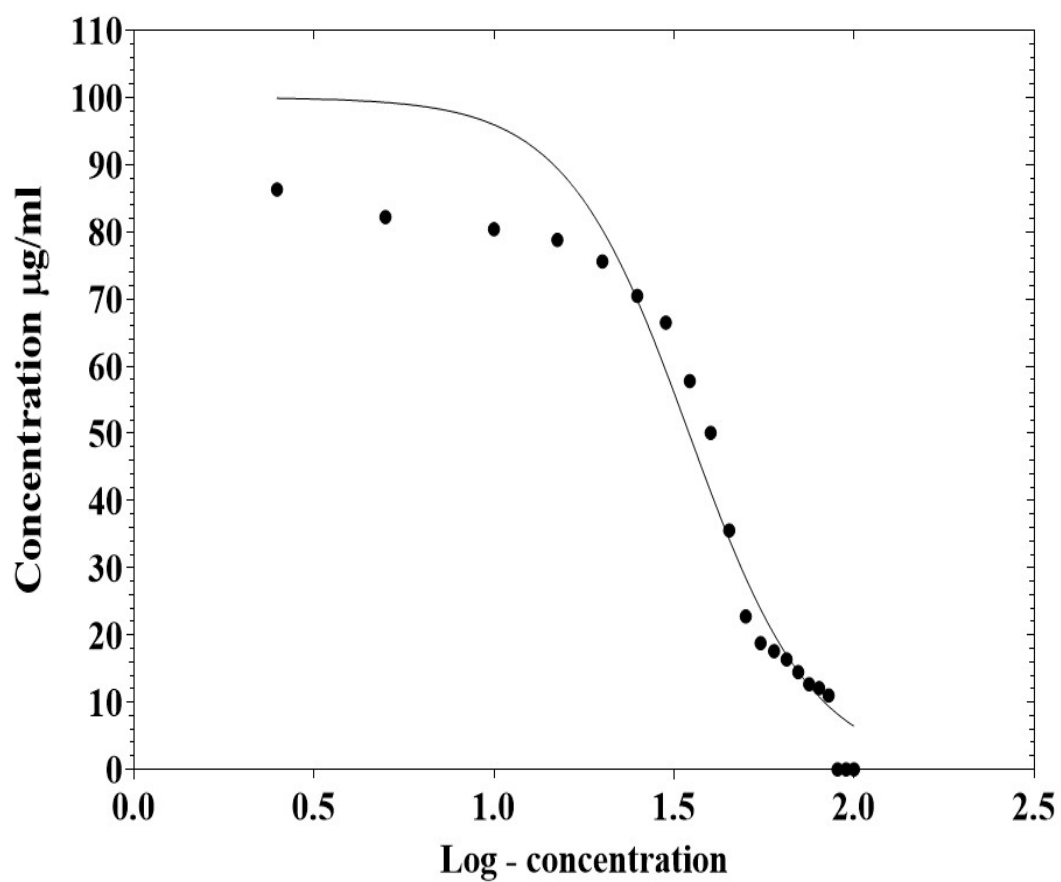


Figure S3. Determination of the IC50 value for Ti3C2Tx MXene. This figure illustrates the dose-response curve showing cell viability percentage versus MXene concentration in Isolated fibroblast Cell, yielding an IC50 value of 34.83 $\mu\text{g/mL}$ after 72h.

Groups/ Time (day)	0	5	15	30
CH	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
CD	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
CDD	4	4	4	4
	4	4	4	4
	4	4	4	4
	4	4	4	4
	4	4	4	4
CDDM	4	3	2	0
	4	4	2	0
	4	3	1	0
	4	3	1	0
	4	4	1	0

Table S4. Macroscopic wound dimensions were measured using a caliper on days 0, 5, 15, and 30 days. control health (CH), control diabetic (CD), diabetic and surgical gingivae (CDD), and diabetic, surgical gingivae and treated by $Ti_3C_2T_x$ MXene (CDDM) in fibroblast cell after 0, 5, 15 and 30 days. All values are expressed in millimeters (mm).