



Figure S1: Hematoxylin and Eosin (H&E) and Masson-Goldner stains of pancreas 2 week post trinitrobenzene sulfonic acid (TNBS) treatment. Human alpha-1 antitrypsin-overexpressed mesenchymal stromal cells (hAAT-MSCs) or MSCs protective effects were noticeable at two weeks (one week after MSC infusions). Scale bar = 2mm.

Table S1. A summary table of the experiment outcomes. Human alpha-1 antitrypsin-overexpressed mesenchymal stromal cells (hAAT-MSCs) showed trends of better protective effects than native MSC although results did not reach significance.

	Vehicle SEM	±	TNBS SEM	±	TNBS + MSCs ± SEM	TNBS + hAA- MSCs ± SEM	ANOVA (p- value)	TNBS vs. TNBS + MSCs (p- value #)	TNBS vs. TNBS + hAAT- MSCs (p-value #)	MSC vs hAAT-MSC (p-value #)
Pancreatic area preserved (%)	93.8 ± 2.4		41.3 ± 5.2		55 ± 21.0	85.5 ± 10.9	0.03	NS	NS	NS
1 month TRPV1 expression	1.5 × 10 ⁶ ± 1.3 × 10 ⁵		4.6 × 10 ⁶ ± 9.7 × 10 ⁵		1.2 × 10 ⁶ ± 4.3 × 10 ⁵	1.3 × 10 ⁶ ± 2.5 × 10 ⁵	0.0006	*	**	NS
1 month Mast Cell density	35.2 ± 11.5		217.7 ± 52.4		90.1 ± 14	95.8 ± 18.8	0.013	*	*	NS
Abdominal withdrawal Threshold, Week 3 (VFFs, g)	0.1 ± 0.02		0.03 ± 0.004		0.04 ± 0.009	0.09 ± 0.02	0.004	NS	*	NS

SEM = Standard error of mean, TNBS = trinitrobenzene sulfonic acid, MSCs = mesenchymal stromal cells. hAAT-MSCs: human alpha-1 antitrypsin overexpressing mesenchymal stromal cells. * p<0.05, ** p<0.01, NS = not significant, # Tukey's p-value of subgroup analysis