Electronic Supplementary Material (ESI) for RSC Advances.

Supplemental Material

A polysaccharide derived from *lentinus edodes* impairs the immunosuppressive function of myeloid-derived suppressor cells via the p38 pathways

The primers sequences were listed in Table S1.

Table S1. Primers used for current study

Description	Forward 5'-3'	Reverse 5'-3'
NOS2	ACTACTGCTGGTGGTGACAA	GAAGGTGTGGTTGAGTTCTCTAAG
TNFα	GGTGCCTATGTCTCAGCCTCTT	CGATCACCCCGAAGTTCAGTA
TGFβ1	CAACAATTCCTGGCGTTACCT	TGTATTCCGTCTCCTTGGTTCA
c/EBPβ	GCCAAGAAGACGGTGGACAAGCT	CTTGAACAAGTTCCGCAGGGTG
HO1	ACACATCCAAGCCGAGAATG	GTACAAGGAAGCCATCACCAG
18S rRNA	CCGCGGTTCTATTTTGTTGGT	CTCTAGCGGCGCAATACGA

Lentinan had no similar effect on MSC2 cells (Supplemental Figure S1).

MPSSS is a polysaccharide derived from *lentinus edodes* with a molecular weight of 5.772×10^5 Da. It mainly consists of a β-1,6-linked glucan branched at C-4 with side chains which are also β-1,6-linked-glucans. Here we used a lentinan injection (Jinling Pharmaceutical CO. LTD) as a control group and its structure is β-（1→3）（1→6）-D-glucans. The results are shown in Figure S1.

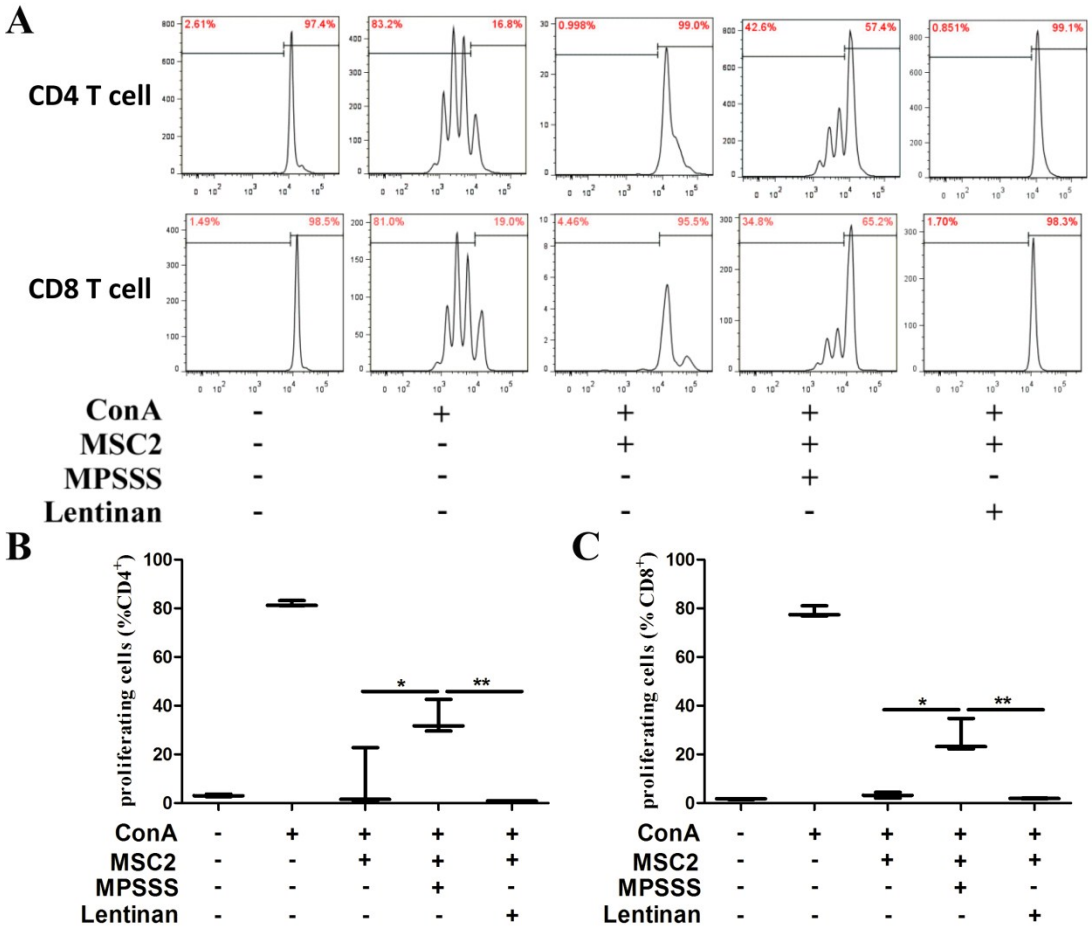

Figure S1. MPSSS reserves the immunosuppressive function of MSC2 cells but Lentinan not. (A) CFSE-labeled splenocytes were co-cultured with MSC2 cells which treated with or without 100 μg/ml MPSSS or lentinan. Then the co-cultured cells were stimulated with or without 2 μg/ml ConA. Quantification of (B) the $CD4^+$ or (C) $CD8^+$ cell proliferation was expressed as the mean ± SD from triplicate determinations.

Only MPSSS stimulated T cells, there was no proliferation peak. When ConA and MPSSS were both in culture system, there was no different of proliferation peak of T cells as only ConA in culture system, and it indicated that MPSSS had no effect on T cells and T cells proliferation induced by ConA (Supplemental Figure S2).

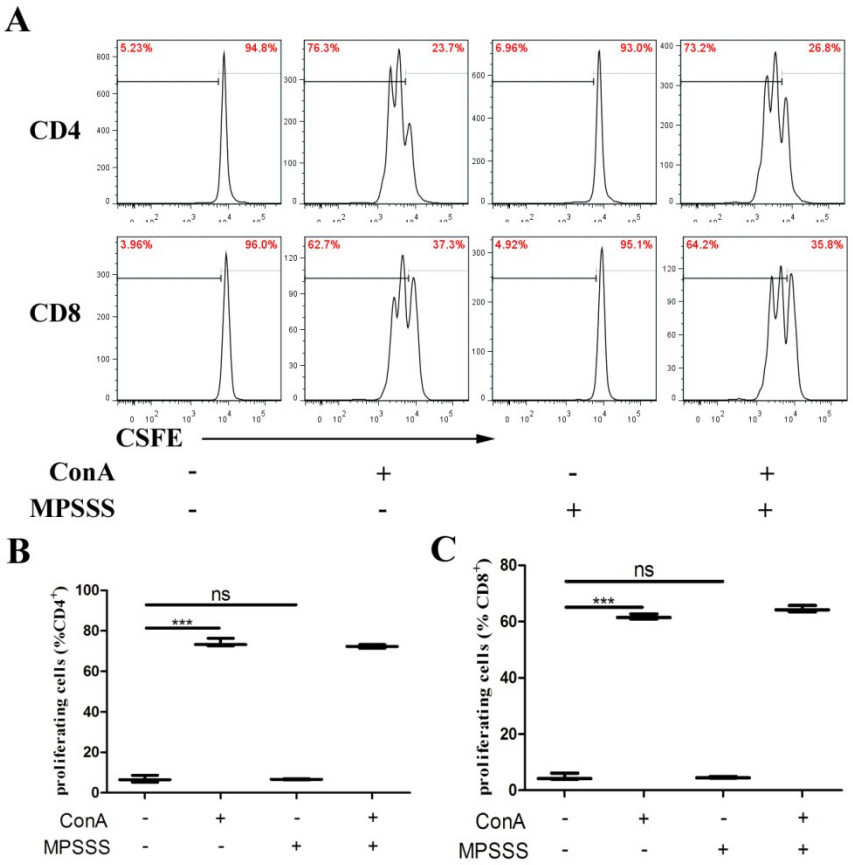

Figure S2. MPSSS had no effect on T cells and T cells proliferation induced by ConA. (A) There was no proliferation peak when only T cells, and ConA (2 μg/ml) could stimulate T cells to proliferate, and there was also no proliferation when MPSSS (100 μg/ml) stimulated T cells. When ConA and MPSSS were both put in culture system, there was no difference to that of only ConA was in culture system. Quantification of (B) the $CD4^+$ or (C) $CD8^+$ cell proliferation was expressed as the mean ± SD from triplicate determinations.