

Supporting Information 1

Experimental layout

The experimental layout for stimulation of tissue discs together with the applied concentrations is shown in Figure S1. The bold borders describe the plate, each cell contains a cartilage sample. 130 μ l of the top row and the left column were used in order to create 55 (+1 control) stimuli of final concentrations half of the shown values.

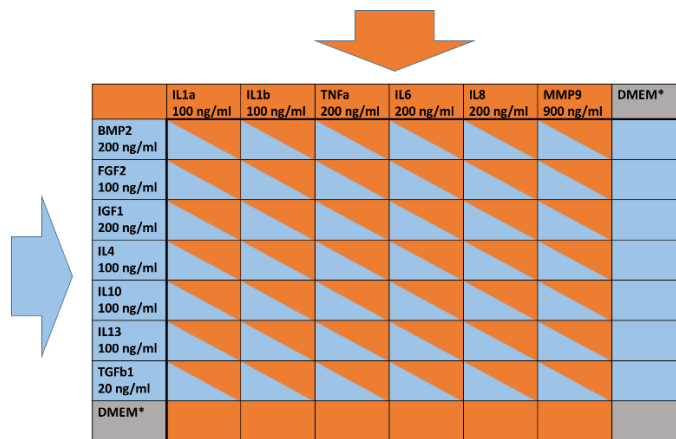


Figure S1: Layout for tissue stimulation. Top row and left column are mixed with an equal amount of 130 μ l in order to produce 55 different stimuli.

The stimuli were chosen because of their major and well-known involvement in osteoarthritis. Table 1 describes their function with the respective reference.

Name	Full name and function	Ref.
IL1a	major pro-inflammatory cytokine	[1]
IL1b	major pro-inflammatory cytokine	[1]
TNFa	major pro-inflammatory cytokine	[1]
IL6	dual role/regulatory: pro-inflammatory cytokine and anti-inflammatory potential	[1]
IL8	dual role/regulatory: pro-inflammatory cytokine and anti-inflammatory potential	[1]
MMP9	gelatinase, degrades extracellular matrix	[2]
BMP2	chondrogenic - major role in development of bone and cartilage	[1]
FGF2	growth factor – supports tissue growth in many tissues	[1]
IGF1	growth factor - supports tissue growth in many tissues	[1]
IL4	major anti-inflammatory cytokine	[1]
IL10	major anti-inflammatory cytokine	[1]
IL13	major anti-inflammatory cytokine	[1]
TGFb1	major growth factor	[1]

- [1] Mary B Goldring. Osteoarthritis and cartilage: the role of cytokines. *Current rheumatology reports*, 2(6):459–465, 2000.
- [2] Brandon J Rose and David L Kooyman. A tale of two joints: the role of matrix metalloproteases in cartilage biology. *Disease markers*, 2016, 2016.