Supplemental Material

Fibronectin contributes to pathological cardiac hypertrophy but not physiological growth

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Short title: Konstandin, Fibronectin in cardiac hypertrophy

Supplemental Figure 1
Schematic depicting the experimental design of the study for wheel running **(a)** or transaortic constriction **(b). (c)** Heart rate assessment during echocardiography. **(d)** Efficiency of the global knockdown is depicted for the listed organs measured by RT-PCR. ***: p<0.001; **: p<0.01; *: p<0.05 compared to control.

Supplemental Figure 2
(a) Immunoblot depicting Fn expression in control and KO mice after sham and TAC procedure. **(b)** Immunohistochemistry from control (left) and KO animals (right) after sham (top panel), or 3 weeks (middle panel) and 8 weeks after TAC procedure (bottom panel) depicting Fn expression (white), cardiomyocytes stained for sarcomeric actin (red) and nuclei (blue).

Supplemental Figure 3
(a) Low magnification images for NRCMs plated on collagen (left) or Fn (right) after transfection with Ad-NFAT-GFP. Please see also Fig. 4c (scale 50µm). **(b)** Low magnification images of mice, which received Ad-NFAT-GFP via intra-myocardial injection 2 days before surgery. Hearts were harvested 2 days after TAC. Control mouse (left) and KO animal (right) after TAC are depicted (scale: 150µm). Please see also Fig. 4d. **(c)** Treatment with CyclosporinA (1µM) inhibits Fn induced activation of the pathological gene program.

Supplemental Table 1

Application	Antibody	Dilution	Amplification	Company
IHC	GFP	1:100	no	Rockland, 600-101-215
IHC	Desmin	1:200	no	Abcam, 15200
IHC	sarcomeric actin	1:200	no	Sigma, A2172
IHC	Fn	1:100	no	Sigma, F3684
immunoblot	Fn	1:1000	no	Sigma, F3684

Antibodies used in the study. Application, dilution, amplification procedure as well as order information are provided.

Supplementary Table 2

	Forward	Reverse
S18	CGAGCCGCCTGGATACC	CATGGCCTCAGTTCCGAAAA
HPRT	AAGGACCTCTCGAAGTGTTGGATA	CATTTAAAAGGAACTGTTGACAACG
bActin	CATGAAGATCAAGATCATTGCTCCT	GCTGATCCACATCTGCTGGAA
ANP	TCTGATGGATTTCAAGAACCTGC	CTGCTTCCTCAGTCTGCTCACTC
BNP	GCAATTCAAGATGCAGAAGCTG	CTGCCTTGAGACCGAAGGACT
Fibronectin	ACCGAAGCCGGGAAGAGCAA	GGTCCGTTCCCACTGCTGATTTATC
aSkeleton Actin	CGCCAGCCTCTGAAACTAGA	AGCCGTTGTCACACACAAGA
bMHC	GAGCCTTGGATTCTCAAACG	GTGGCTCCGAGAAAGGAAG
RCAN1.4	TCCAGCTTGGGCTTGACTGAG	ACTGGAAGGTGGTGTCCTTGT
c/EBPβ	ACGACTTCCTCTCCGACCTCT	AGGCTCACGTAACCGTAGTCG

CITED4	TGCCAGATGACAGTTGGGTC	GGAATCCGAAGGCTGGTTCA
αMHC	GCAGCTGTGCATCAACTTCAC	CACTCAATGCCCTCCTTCTTG
Mef2c	GATGAAGTGAAGCGTGGAAGG	CACAGCTCAGTTCCCAAATCC
Nkx2.5	ACCTTTAGGAGAAGGGCGATG	GAGGGTGGGTGTGAAATCTGA
PGC1α	AATCAGACCTGACACAACGC	GCATTCCTCCTCAATTTCACCAA
VEGFα	TGAGCTTCCTACAGCACAGCAG	TTACACGTCTGCGGATCTTGGA
Col 1a1	ACGCCATCAAGGTCTACTGC	ACTCGAACGGGAATCCATCG
Col 3a1	CCCTGGACCTCAGGGTATCA	GGGTTTCCATCCCTTCCAGG

Mouse primer sequences applied in the study are depicted.

Supplementary Table 3

	Forward	**Reverse**
S18	CGAGCCGCCTGGATACC	CATGGCCTCAGTTCCGAAAA
HPRT	AAGGACCTCTCGAAGTGTTGGATA	CATTTAAAAGGAACTGTTGACAACG
bActin	CATGAAGATCAAGATCATTGCTCCT	GCTGATCCACATCTGCTGGAA
ANP	TACAGTGCGGTGTCCAACACAGAT	TGGGCTCCAATCCTGTCAATCCTA
BNP	GTTCAAGCTGCTTTGGGCAGAAGA	ACTGTGGCAAGTTTGTGCTGGAAG
αSkeleton Actin	AGCAGCAGAAACTAGACACCA	CCACGATGGATGGGAACACA
βMHC	GTTTGGCCACACCAAGGTGTTCTT	AGTAGAGCTTCATCCACGGCCAAT
RCAN1.4	CGGAGGCCAGAGTACACACC	GGTCAGTGTGCCTGTTCAGCT
c/EBPβ	GGGTTGTTGCTGTTGATGT	GCTCGAAACGGAAAAGGTTC
CITED4	ACGAGGGTGGTTTTGCAGTCT	CAACTCAGCCAGACAGAGGAA
αMHC	GTGACAGTGGGAAAGGCAAAG	AAAGTGAGGATGGGTGGTCCT
Mef2c	AAGGAATGGATACGGCAAC	TCCTAGATTCATAGGGGGAGGA
Nkx2.5	CTCGGATTTCACACCCACACT	CTCCGGGTCCTGATATGGAAT
PGC1α	TCCCACGACTCCTCCTCATAA	TGCCTTGGGTACCAGAACAT
VEGFα	TGAAAGACTCCGGTGTGGTCT	GTTTCTGGAAGTGAGCCAACG

Rat primer sequences applied in the study are depicted.