

Supplement 7 The top ten most frequently genes/proteins/metabolites investigated in experiments applying tension on hPDLs.

For each gene, the data was first sorted by type of force application (“dynamic”/”static”) and then by frequency. For each gene, protein or metabolite, force parameters and expression pattern (increase, decrease and other changes) are given. The maximum/minimum of expression and corresponding force parameters are given. Cells reporting either “increase” (or “increase with plateau”), “decrease” (or “decrease with plateau”) and “other” changes in expression (definition in Figure 5) were labelled **green**, **red** or **purple**, respectively.

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
RUNX2 (dynamic)	0.005	Li et al. (2015)	5%	0.5h, 1h, 2h, 4h, 8h, 12h, 24h	uniaxial	increase (qPCR, GAPDH)	24h: 12.0 (ratio)*	increase followed by plateau (WB, GAPDH)	12h...24h: 2 (rel)* / 1.4 (ratio-calc)
		Yang et al. (2010)	12%	0.5h, 1h, 2h, 4h, 6h, 12h, 24h	uniaxial	increase followed by decrease (sqPCR, β -actin)	highest @ 1h: 2.0 (optical density)* / 3.3 (ratio-calc relative to t_0) lowest @ 12h: 0.3 (optical density)* / 0.5 (ratio-calc relative to t_0)	n.g.	n.g.
	0.05	Nokhbehsaim et al. (2011)	3%	1d, 6d	equibiaxial	decrease (qPCR, GAPDH)	1d: 0.2 (FC)*	n.g.	n.g.
		Nokhbehsaim et al. (2010)	3%, 20%	1d, 6d	equibiaxial	3%: decrease (qPCR, GAPDH) 20%: decrease (qPCR, GAPDH)	3% @ 1d: 0.24 (FC) 20% @ 1d: 0.27 (FC)	n.g.	n.g.
	0.1	Jiang and Hua (2016)	5%	6h, 12h, 24h, 48h	equibiaxial	increase (sqPCR, GAPDH)	24h: 2.9 (FC)*	increase (WB, GAPDH)	24h: no quantitative information given
		Yang et al. (2018)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	1.8 (FC)*	n.g.	n.g.
		Wu et al. (2019)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	1.6 (FC)†	increase (WB, GAPDH)	no quantitative information given
		Lee et al. (2015)	12%	48h	equibiaxial	increase (qPCR, β -actin)	3.8 (ratio)*	n.g.	n.g.
		Wang et al. (2019b)	12%	qPCR for 12h, 24h, 48h; WB for 24h, 48h	equibiaxial	increase (qPCR, β -actin)	48h: 1.3 (FC)†	increase (WB, GAPDH)	48h: no quantitative information given
		Chang et al. (2017)	12%	24h, 48h, 72h	equibiaxial	increase (qPCR, GAPDH)	72h: 3 (FC)*	n.g.	n.g.
		Shen et al. (2014)	12%	6h, 12h, 24h	equibiaxial	increase (qPCR, β -actin)	24h: 13.5 (rel)* / 3.4 (ratio-calc)	increase (WB, GAPDH)	24h: 415.1 (rel)* / 1.3 (ratio-calc)

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
		Liu et al. (2017)	6%, 8%, 10%, 12%, 14%	12h	equibiaxial	HPDLSCs: increase (qPCR, β -actin)	HPDLSCs @ 12%: 3.7 (ratio)*	n.g.	n.g.
	0.2	Cho et al. (2010)	12%	0h, 3h, 6h, 12h, 24h, 48h	uniaxial	decrease followed by plateau then increase (sqPCR, GAPDH)	3h...6h: 0.5 (ratio)† 48h: 3 (ratio)†	n.g.	n.g.
		Cho et al. (2010)	3%, 6%, 12%, 15%	48h	uniaxial	decrease followed by increase (sqPCR, GAPDH)	12%: 0.8 (ratio)† 15%: 1.5 (ratio)†	n.g.	n.g.
	0.5	He et al. (2019)	n. g.	3h	uniaxial	increase (qPCR, β -actin)	10.1 (rel)† / 10.6 (ratio-calc)	n.g.	n.g.
		Tang et al. (2012)	0.3%	3h, 6h, 12h, 24h	uniaxial	increase (qPCR, GAPDH)	24h: 9.6 (rel)* / 7.4 (ratio-calc)	increase followed by plateau (WB, GAPDH)?	12h...24h: 1.1 (rel)* / 1.4 (ratio-calc)
		Fujihara et al. (2010)	10%	48h	uniaxial	increase (qPCR, HPRT)	0.7 (rel)* / 1.6 (ratio-calc)	n.g.	n.g.
		Li et al. (2013)	10%	12h, 24h, 48h	equibiaxial	increase followed by decrease (qPCR, GAPDH)	highest @ 24h: 3.2 (FC)* lowest @ 48h: 0.2 (FC)*	increase followed by decrease (WB, GAPDH)	highest @ 24h: 0.8 (rel)* / 2.0 (ratio-calc) lowest @ 48h: 0.1 (rel)* / 0.4 (ratio-calc)
		Li et al. (2014)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	3.3 (rel)* / 6.6 (ratio-calc)*	increase (WB, GAPDH)	0.1 (rel)* / 2.7 (ratio-calc)
		Ren et al. (2015)	10%	1h, 3h, 6h, 12h, 18h, 24h	equibiaxial	RUNX2: increase (qPCR, GAPDH)	RUNX2 @ 3h: 2.9 (FC)*	RUNX2: temporary increase followed by plateau then temporary decrease (WB, GAPDH) p-RUNX2: increase followed by plateau (WB, GAPDH)	RUNX2: highest @ 3h...6h: 0.7 (rel)† / 1.9 (ratio-calc) RUNX2: lowest @ 12h: 0.2 (rel)† / 0.6 (ratio-calc) p-RUNX2 @ 3h...6h: 0.4 (rel)* / 9.5 (ratio-calc)
		Yu et al. (2018)	12%	24h, 48h, 72h	equibiaxial	increase (qPCR, ACTB)	48h: 3.4 (FC)*	increase (WB, β -actin)	no quantitative information given
		Sun et al. (2017)	12%	12h, 24h, 48h	uniaxial	temporary decrease (qPCR, GAPDH)	12h: 0.5 (ratio)	temporary decrease (WB, GAPDH)	12h: 0.8 (ratio)*
		Sun et al. (2016)	12%	1d, 5d	uniaxial	increase followed by decrease (qPCR, GAPDH)	highest @ 1d: 2.0 (ratio)* lowest @ 5d: 0.9 (ratio)*	increase followed by decrease (WB, GAPDH)	highest @ 1d: 1.5 (ratio)* lowest @ 5d: 0.8 (ratio)*
	1.0	Wang et al. (2019a)	10%	12h	equibiaxial	increase (qPCR, GAPDH)	2.5 (FC)*	n.g.	n.g.
		Wei et al. (2014)	10%	12h	equibiaxial	increase (qPCR, GAPDH)	1.8 (ratio)*	increase (WB, β -actin)	no quantitative information given
		Wei et al. (2015)	10%	6h, 12h, 24h, 48h	equibiaxial	increase (qPCR, GAPDH)	48h: 1.8 (FC)*	n.g.	n.g.

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
RUNX2 (static)	n. a.	Wada et al. (2017)	15%	6h, 12h, 24h	equibiaxial	increase (qPCR, GAPDH)	24h: 1.7 (FC)*	n.g.	n.g.
ALPP (dynamic)	0.005	Yang et al. (2010)	12%	0.5h, 1h, 2h, 4h, 6h, 12h, 24h	uniaxial	temporary increase (sqPCR, β -actin)	4h: 0.8 (rel to t0 with t0 = 0)*	n.g.	n.g.
	0.05	Yang et al. (2006)	310-320 grams force	2h, 4h, 6h, 12h, 24h	uniaxial	n.g.	n.g.	increase (biochemistry test)	4h: 3 (unit/10 ⁴ cells)* / 4.3 (ratio-calc)
		Nokhbehsaim et al. (2010)	3%, 20%	1d, 6d	equibiaxial	3%: increase followed by decrease (qPCR, GAPDH) 20%: decrease (qPCR, GAPDH)	3% highest @1d: 1.13 (FC) 3% lowest @ 6d: 0.59 (FC) 20% @ 6d: 0.34 (FC)	n.g.	n.g.
	0.1	Jiang and Hua (2016)	5%	6h, 12h, 24h, 48h	equibiaxial	increase (sqPCR, GAPDH)	24h: 2.7 (FC)*	increase (WB, GAPDH)	24h: no quantitative information given
		Yang et al. (2018)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	1.8 (FC)*	n.g.	n.g.
		Lee et al. (2015)	12%	48h	equibiaxial	increase (qPCR, β -actin)	3.8 (ratio)*	n.g.	n.g.
		Chang et al. (2015)	12%	6h, 12h, 24h, 48h, 72h	equibiaxial	increase (qPCR, GAPDH)	72h: 5.3 (ratio)*	n.g.	n.g.
		Chang et al. (2017)	12%	24h, 48h, 72h	equibiaxial	n.g.	n.g.	increase (PNPP)	72h: 0.8 (U/mg)* / 2.7 (ratio-calc)
		Shen et al. (2014)	12%	6h, 12h, 24h	equibiaxial	increase (qPCR, β -actin)	24h: 13.8 (rel)* / 2.5 (ratio-calc)	increase (WB, GAPDH)	24h: 347.2 (rel)* / 1.5 (ratio-calc)
		Yamaguchi and Shimizu (1994)	24%	3d	equibiaxial	n.g.	n.g.	donor 1: decrease (ALP activity) donor 2: decrease (ALP activity) donor 3: decrease (ALP activity)	donor 1: 10.3 (mU/10 ⁵ cells) / 0.6 (ratio-calc) donor 2: 10.0 (mU/10 ⁵ cells) / 0.6 (ratio-calc) donor 3: 10.6 (mU/10 ⁵ cells) / 0.6 (ratio-calc)
		Yamaguchi et al. (1996)	24%	1d, 3d, 5d	equibiaxial	n.g.	n.g.	decrease followed by plateau (ALP activity)	3d...5d: 10.7 (mU/10 ⁵ cells)* / 0.6 (ratio-calc)
		Matsuda et al. (1998)	9%, 18%	2d, 4d, 6d	equibiaxial	n.g.	n.g.	9%: increase (ALP activity) 18%: increase (ALP activity)	9% @ 6d: 257.7 (U/mg protein)* / 1.4 (ratio-calc) 18% @ 4...6d: 230.8 (U/mg protein)* / 1.3 (ratio-calc)
		Liu et al. (2017)	6%, 8%, 10%, 12%, 14%	12h	equibiaxial	HPDLSCs: increase (qPCR, β -actin)	HPDLSCs @ 12%: 1.6 (ratio)*	n.g.	n.g.

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
		Yamaguchi et al. (1996)	ALP activity for 9%, 12%, 15%, 18%, 21%, 24%; sqPCR for 12%, 24%	ALP activity for 5d; sqPCR for 3d	equibiaxial	decrease (Northern blot, β -actin)	quantitative information not given	decrease (ALP activity)	24%: 9.4 (mU/10 ⁶ cells)* / 0.5 (ratio-calc)
	0.5	Qin and Hua (2016)	5%	1h, 3h, 6h	n.g.	not reported with reference to force (qPCR, GAPDH)		temporary decrease (WB, GAPDH)	1h: 0.03 (rel)* / 0.2 (ratio-calc)
		Fujihara et al. (2010)	10%	48h	uniaxial	increase (qPCR, HPRT)	0.12 (rel)* / 3 (ratio-calc)	n.g.	n.g.
		Yamaguchi et al. (2002)	15%	30min, 90min, 6h	equibiaxial	temporary decrease (sqPCR, GAPDH)	90min: 0.8 (ratio)*	n.g.	n.g.
		Chiba and Mitani (2004)	15%	2d, 5d	equibiaxial	n.g.	n.g.	decrease (ALP activity, colorimetric assay)	5d: 0.8 (ratio)*
	1.0	Monnouchi et al. (2011)	8%	1h	uniaxial	increase (qPCR, β -actin)	HPLF-2E: 2.3 (FC)* HPLF-2D: 2.1 (FC)* HPLF-3M: 2.9 (FC)*	n.g.	n.g.
		Konstantonis et al. (2014)	8%	12h	uniaxial	"young cells" (P3-6): increase (qPCR, GAPDH) "senescent cells" (P20-24): increase (qPCR, GAPDH)	"young cells": 150% (rel)* / 1.5 (ratio-calc) "senescent cells": 50% (rel)* / 1.5 (ratio-calc)	"young cells": ALP activity increase (colorimetric assay) "senescent cells": ALP activity increase (colorimetric assay)	"young cells": 150% (rel)* / 1.5 (ratio-calc) "senescent cells": 95% (rel)* / 1.6 (ratio-calc)
		Papadopoulou et al. (2019)	8%	18h	uniaxial	increase (qPCR, GAPDH)	2.3 (FC)†	n.g.	n.g.
		Wei et al. (2015)	10%	6h, 12h, 24h, 48h	equibiaxial	n.g.	n.g.	increase (ALP activity)	48h: 0.6 [Sigma unit/(min * mg protein)]* / 11.0 (ratio-calc)
ALPP (static)	n. a.	Chen et al. (2014)	-100 kPa	sqPCR for 1d, 3d, 7d, 15d ELISA for 3d, 7d, 15d	equibiaxial	increase (?, actin)	7d: 0.5 (?)* / 2.1 (ratio-calc)	increase (ELISA)	15d: 0.2 (μ M/ μ g DNA)* / 1.2 (ratio-calc)
		Jacobs et al. (2013)	1%, 5%, 10%	12h	equibiaxial	increase (qPCR, actin + GAPDH)	5%: 2.7 (FC)*	n.g.	n.g.
		Nazet et al. (2020)	35%	24h, 48h, 72h	equibiaxial	n.g.	n.g.	increase followed by platform (ELISA)	48h...72h: 1.4 (ratio)†

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		Nazet et al. (2020)	7%, 10%, 16%. 35%	48h	equibiaxial	n.g.	n.g.	increase (ELISA)	16%: 1.5 (ratio)†
BGLAP (dynamic)	0.05	Yang et al. (2006)	310-320 grams	2h, 4h, 6h, 12h, 24h	uniaxial	n.g.	n.g.	increase (RIA)	12h: 1.6 (ng/10 ⁴ cells)* / 8 (ratio-calc)
	0.1	Jiang and Hua (2016)	5%	6h, 12h, 24h, 48h	equibiaxial	increase (sqPCR, GAPDH)	24h: 3 (FC)*	increase (WB, GAPDH)	24h: no quantitative information given
		Kim et al. (2007)	9%	6d	equibiaxial	increase (sqPCR, GAPDH)	75 (rel)* / 1.7 (ratio-calc)	n.g.	n.g.
		Wu et al. (2019)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	2.1 (FC)†	n.g.	n.g.
		Yang et al. (2018)	10%	qPCR for 24 h; WB for 72h	equibiaxial	increase (qPCR, GAPDH)	2.0 (FC)*	increase (WB, GAPDH)	1.8 (ratio)*
		Lee et al. (2015)	12%	48h	equibiaxial	increase (qPCR, β-actin)	4.2 (FC?)† / 4.7 (ratio-calc)	n.g.	n.g.
		Shen et al. (2014)	12%	6h, 12h, 24h	equibiaxial	increase (qPCR, β-actin)	24h: 10.5 (rel)* / 2.6 (ratio-calc)	increase (WB, GAPDH)	24h: 279.2 (rel) * / 1.5 (ratio-calc)
		Chang et al. (2015)	12%	6h, 12h, 24h, 48h, 72h	equibiaxial	increase (qPCR, GAPDH)	72h: 2 (ratio)*	n.g.	n.g.
		Chang et al. (2017)	12%	72h	equibiaxial	n.g.	n.g.	increase (WB, β-actin)	72h: 1.8 (ratio)*
		Wang et al. (2019b)	12%	qPCR for 12h, 24h, 48h; WB for 24h, 48h	equibiaxial	increase (qPCR, β-actin)	48h: 1.3 (FC)†	increase (WB, GAPDH)	24h: no quantitative information given
	0.5	Qin and Hua (2016)	5%	1h, 3h, 6h	n.g.	not reported with reference to force (qPCR, GAPDH)		temporary decrease followed by temporary increase (WB, GAPDH)	lowest @ 1h: 0.09 (rel)* / 0.7 (ratio-calc) highest @ 3h: 0.2 (rel)* / 1.5 (ratio-calc)
		Ren et al. (2015)	10%	1h, 3h, 6h, 12h, 18h, 24h	equibiaxial	increase followed by plateau (qPCR, GAPDH)	18...24h: 1.5 (FC)*	n.g.	n.g.
		Yang et al. (2016)	10%	1h, 3h, 6h, 12h, 24h	equibiaxial	increase (qPCR, GAPDH)	24h: 3.2 (FC)*	n.g.	n.g.
	1.0	Wang et al. (2019a)	10%	12h	equibiaxial	increase (qPCR, GAPDH)	5.8 (FC)*	n.g.	n.g.
		Wei et al. (2014)	10%	12h	equibiaxial	increase (qPCR, GAPDH)	2.1 (ratio)*	increase (WB, β-actin)	no quantitative information given

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		Wei et al. (2015)	10%	6h, 12h, 24h, 48h	equibiaxial	increase (qPCR, GAPDH)	24h: 3.5 (FC)*	n.g.	n.g.
BGLAP (static)	n. a.	Chen et al. (2014)	-100 kPa	sqPCR for 1d, 3d, 7d, 15d ELISA for 7d, 15d	equibiaxial	increase (? , actin)	15d: 0.3 (?)* / 2.8 (ratio-calc)	increase (ELISA)	15d: 31.4 (pg/ml/cell)* / 1.3 (ratio-calc)
		Jacobs et al. (2013)	1%, 5%, 10%	12h	equibiaxial	increase followed by decrease (qPCR, actin + GAPDH)	highest @ 1%: 1.3 (FC)* lowest @ 5%: 0.6 (FC)*	n.g.	n.g.
IL1B (dynamic)	0.005	Long et al. (2001)	6%	sqPCR for 4h, 24h, 48h; ELISA for 24h, 48h	equibiaxial	no expression (sqPCR, GAPDH)	no quantitative information is given	no expression (ELISA)	no quantitative information given
		Long et al. (2001)	sqPCR: 3%, 6%, 10%, 15%; ELISA: 6%, 10%, 15%	24h	equibiaxial	decrease followed by plateau then increase (sqPCR, GAPDH)	lowest @ 6%...10%: 11.4 (rel) / 0.1 (ratio-calc) highest @ 15%: 152.3 (rel) / 1.5 (ratio-calc)	increase (ELISA)	15%: 85.7 (pg/ml)* / control n.g
	0.05	Nokhbehsaim et al. (2012)	3%, 20%	1d, 6d	equibiaxial	3%: decrease (qPCR, GAPDH) 20%: decrease (qPCR, GAPDH)	3% @ 6d: 0.08 (FC)* 20% @ 6d: 0.5 (FC)*	n.g.	n.g.
		Nokhbehsaim et al. (2010)	3%, 20%	1d, 6d	equibiaxial	3%: increase (qPCR, GAPDH) 20%: increase (qPCR, GAPDH)	3% @ 1d: 12.41 (FC) 20% @ 6d: 36.16 (FC)	n.g.	n.g.
	0.1	Shimizu et al. (1997)	18%	RIA for 1d, 3d, 5d sqPCR for 3d	equibiaxial	"young cells" (P5-6): increase (sqPCR, GAPDH) "old cells" (P18-20): increase (sqPCR, GAPDH)	no quantitative information is given	"young cells": increase followed by plateau (RIA) "old cells": increase (RIA)	"young cells" @ 3d...5d: 40 (fmol/10 ⁵ cells)* / 2.1 (ratio-calc) "old cells" @ 5d: 60 (fmol/10 ⁵ cells)* / 3 (ratio-calc)
		Shimizu et al. (1995)	18%	1d, 3d, 5d	equibiaxial	n.g.	n.g.	increase followed by plateau (radioactivity)	3d...5d: 54.1 (fmol/10 ⁵ cells)* / 2.1 (ratio-calc)
		Abiko et al. (1998)	18%	1d, 3d, 5d	equibiaxial	n.g.	n.g.	"young cells" (P5-6): increase followed by plateau (ELISA) "old cells" (P18-20): increase (ELISA)	"young cells" @ 3d...5d: 40.15 (ng/10 ⁶ cells) / 2.1 (ratio-calc) "old cells" @ 5d: 58.10 (ng/10 ⁶ cells) / 2.8 (ratio-calc)

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		Zhuang et al. (2019)	20%	WB for 6h, 24h; ELISA for 1h, 2h, 4h, 6h, 12h, 24h	equibiaxial	n.g.	n.g.	Pro-IL-1 β (31 kDa): increase followed by decrease (WB, GAPDH) Mature-IL-1 β (17 kDa): decrease (WB, GAPDH) IL-1 β in culture medium: increase (ELISA)	Pro-IL-1 β highest @ 6h: 0.8 (rel)* / 1.1 (ratio-calc) Pro-IL-1 β lowest @24h: 0.6 (rel)* / 0.9 (ratio-calc) Mature-IL-1 β @ 24h: 0.3 (rel)* / 0.6 (ratio-calc) IL-1 β in culture medium 6h: 10.4 (ratio)*
		Zhao et al. (2016)	20%	qPCR and WB for 0h, 6h, 24h; ELISA for 1h, 2h, 4h, 6h, 12h, 24h	equibiaxial	increase followed by decrease (qPCR, GAPDH)	highest @ 6h: 1.4 (ratio)* lowest @ 24h: 0.6 (ratio)*	Pro-IL-1 β (31 kDa): increase (WB, GAPDH) IL-1 β (17 kDa): increase (WB, GAPDH) IL-1 β in the culture medium: temporary increase (ELISA)	Pro-IL-1 β @ 6h: 1.7 (ratio)* IL-1 β @6h: 1.8 (ratio)* IL-1 β in the culture medium @ 6h: 5.5 (ratio)*
		Liu et al. (2017)	6%, 8%, 10%, 12%, 14%	12h	equibiaxial	n.g.	n.g.	HPDLSCs: increase followed by plateau (ELISA)	HPDLSCs @ 6%...14%: 3.2 (pg/10 ⁶ cells)* / 1.5 (ratio)*
		Shimizu et al. (1997)	9%, 18%	5d	equibiaxial	n.g.	n.g.	"young cells" (P5-6): increase (RIA) "old cells" (P18-20): increase (RIA)	"young cells" @ 18%: 41.6 (fmol/10 ⁵ cells)* / 2.1 (ratio-calc) "old cells" @ 18%: 61.3 (fmol/10 ⁵ cells)* / 3.1 (ratio-calc)
		Shimizu et al. (1994)	9%, 18%	1d, 3d, 5d	equibiaxial	n.g.	n.g.	9%: increase followed by plateau (RIA) 18%: increase followed by plateau (RIA)	9% @ 3d...5d: 27.9 (fmol/10 ⁵ cells)* / 1.2 (ratio-calc) 18% @ 3d...5d: 42.3 (fmol/10 ⁵ cells)* / 1.8 (ratio-calc)
		Shimizu et al. (1997)	n.g.	5d	equibiaxial	n.g.	n.g.	Donor 1, "young cells" (P5-6): increase (RIA) Donor 1, "old cells" (P18-20): increase (RIA) Donor 2, "young cells" (P5-6): increase (RIA) Donor 2, "old cells" (P18-20): increase (RIA) Donor 3, "young cells" (P5-6): increase (RIA) Donor 3, "old cells" (P18-20): increase (RIA)	Donor 1, "young cells": 39.8 (fmol/10 ⁵ cells)† / 2.1 (ratio-calc) Donor 1, "old cells": 60.2 (fmol/10 ⁵ cells)† / 3.0 (ratio-calc) Donor 2, "young cells": 35.0 (fmol/10 ⁵ cells)† / 2.4 (ratio-calc) Donor 2, "old cells": 51.7 (fmol/10 ⁵ cells)† / 3.3 (ratio-calc) Donor 3, "young cells": 39.3 (fmol/10 ⁵ cells)† / 2.2 (ratio-calc) Donor 3, "old cells": 55.3 (fmol/10 ⁵ cells)† / 3.2 (ratio-calc)
	0.2	Lee et al. (2012)	12%	3h, 6h, 12h, 24h, 48h	uniaxial	increase (sqPCR, GAPDH)	48h: 3 (ratio)†	n.g.	n.g.

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
		Lee et al. (2012)	3%, 6%, 12%, 15%	24h	uniaxial	increase (sqPCR, GAPDH)	15%: 3.3 (ratio)†	n.g.	n.g.
	0.5	Kaku et al. (2019)	12%	48h	equibiaxial	n.g.	n.g.	increase (ELISA)	12.1 (pg/ml)† / 1.6 (ratio-calc)
		Sun et al. (2017)	12%	12h, 24h, 48h	uniaxial	n.g.	n.g.	increase (ELISA)	48h: 89.76 (pg/ml) / 89.8 (ratio-calc)
		Sun et al. (2016)	12%	1d, 5d	uniaxial	n.g.	n.g.	increase (ELISA)	5d: 53 (pg/ml)* / control not detectable
IL1B (static)	n. a.	Wada et al. (2017)	15%	6h, 12h, 24h	equibiaxial	increase (qPCR, GAPDH)	24h: 5.2 (FC)*	n.g.	n.g.
		Ritter et al. (2007)	2.5%	6h	equibiaxial	increase (qPCR, β-actin)	5.8 (FC)	n.g.	n.g.
PTGS2 (dynamic)	0.005	Long et al. (2002)	6%	4h, 24h, 48h	equibiaxial	decrease (sqPCR, GAPDH)	quantitative information not given	n.g.	n.g.
		Agarwal et al. (2003)	15%	4h, 24h, 48h	equibiaxial	increase (sqPCR; GAPDH)	48h: 116.8 (rel)† / 31.8 (ratio-calc)	n.g.	n.g.
		Agarwal et al. (2003)	3%, 6%, 8%	4h	equibiaxial	increase (sqPCR; GAPDH)	6%: 7.6 (rel)† / 2.2 (ratio-calc)	n.g.	n.g.
	0.017	Suzuki et al. (2014)	5%	6h	uniaxial;	increase (qPCR, GAPDH)	6h: 66.3 (rel)* / 25.2 (ratio-calc)	n.g.	n.g.
	0.05	Nogueira et al. (2014)	3%, 20%	36h	equibiaxial	n.g.	n.g.	increase (ELISA)	20%: 210 (pg/mL)* / 1.8 (ratio-calc)
		Nokhbehsaim et al. (2010)	3%, 20%	1d, 6d	equibiaxial	3% temporary increase (qPCR, GAPDH) 20% increase (qPCR, GAPDH)	3% @ 1d: 1.29 (FC) 20% @ 6d: 3.32 (FC)	n.g.	n.g.
		Nokhbehsaim et al. (2012)	3%, 20%	1d, 6d	equibiaxial	3%: no change (qPCR, GAPDH) 20%: increase (qPCR, GAPDH)	20% @ 6d: 1.5 (FC)*	n.g.	n.g.
	0.1	Ohzeki et al. (1999)	unclear	unclear	equibiaxial	increase (sqPCR, GAPDH)	no quantitative information is given	n.g.	n.g.
		Abiko et al. (1998)	18%	1d, 3d, 5d	equibiaxial	increase (sqPCR, GAPDH)	only day 3 reported (no quantitative information is given)	n.g.	n.g.

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
		Shimizu et al. (1998)	18%	6h, 24h, 3d, 5d	equibiaxial	increase (sqPCR, GAPDH)	no quantitative information is given	n.g.	n.g.
	0.5	Wang et al. (2011)	0.5%	2h	uniaxial	increase (qPCR, GAPDH)	6.4 (FC)*	n.g.	n.g.
PTGS2 (static)	n. a.	(2018)	3%	12h	equibiaxial	increase (qPCR; actin + GAPDH)	3.8 (FC)†	n.g.	n.g.
		Wada et al. (2017)	15%	6h, 12h, 24h	equibiaxial	increase (qPCR, GAPDH)	12h: 3.8 (FC)*	n.g.	n.g.
		Jacobs et al. (2014)	1%, 5%, 10%	12h	equibiaxial	increase (qPCR, actin + GAPDH)	10%: 31.4 (FC)	n.g.	n.g.
		Nazet et al. (2020)	35%	24h, 48h, 72h	equibiaxial	temporary increase (qPCR, TBP/PPIB)	48h: 2.2 (FC)†	n.g.	n.g.
		Nazet et al. (2020)	7%, 10%, 16%, 35%	48h	equibiaxial	increase (qPCR, TBP/PPIB)	35%: 2.5 (FC)†	n.g.	n.g.
TNFRSF11B (dynamic)	0.005	Li et al. (2015)	5%	0.5h, 1h, 2h, 4h, 8h, 12h, 24h	uniaxial	increase (qPCR, GAPDH)	12h: 4.0 (ratio)*	increase (WB, GAPDH)	8h: 0.9 (rel)* / 4.4 (ratio-calc)
		Yang et al. (2010)	12%	0.5h,1h, 2h, 4h, 6h, 12h, 24h	uniaxial	increase followed by decrease (sqPCR, β-actin)	highest @ 2h: 1.5 (rel)* / 1.4 (ratio-calc relative to t ₀) lowest @ 6h: 0.3 (rel)* / 0.3 (ratio-calc relative to t ₀)	n.g.	n.g.
	0.05	Yang et al. (2006)	310-320 grams	2h, 4h, 6h, 12h, 24h	uniaxial	decrease (in-situ hybridization staining)	4h: 0.3 (optical density)* / 0.5 (ratio-calc)	decrease (ELISA)	24h: 38.9 (10 ⁻¹⁵ mol)* / 0.9 (ratio-calc)
		Nogueira et al. (2014)	20%	1d, 3d	equibiaxial	OPG: decrease followed by plateau (qPCR, GAPDH) RANKL/OPG: increase	OPG @ 1d...3d: 0.2 (FC)* RANKL/OPG @ 1d: 4.5 (ratio)*	OPG: decrease (ELISA) RANKL/OPG: increase	OPG @ 1d: 0.6 (ratio)* RANKL/OPG @ 3d: 1.4 (ratio)*
	0.1	Lee et al. (2015)	12%	48h	equibiaxial	increase (qPCR, β-actin)	7.7 (ratio)*	n.g.	n.g.
		Liu et al. (2017)	6%, 8%, 10%, 12%, 14%	12h	equibiaxial	HPDLSCs: increase (qPCR, β-actin)	HPDLSCs @ 12%: 1.6 (ratio)*	n.g.	n.g.
	0.17	Tsuji et al. (2004)	20%	sqPCR for 12h, 24h, 48h, 72h, 120h; qPCR for 48h	equibiaxial	increase (sqPCR, GAPDH) increase (qPCR, β-actin)	sqPCR @ 48h: 2.2 (ratio)* qPCR @ 48h: 34.8 (rel)* / 6.4 (ratio-calc)	n.g.	n.g.

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
		Tsuji et al. (2004)	sqPCR for 5%, 20%, 25%; ELISA for 20%	48h	equibiaxial	increase (sqPCR, GAPDH)	20%: 1.5 (rel)* / 2.2 (ratio-calc)	increase (ELISA)	20%: 339 (pM) / 3.0 (ratio-calc)
	0.5	Kanzaki et al. (2019)	15%	24h	equibiaxial	increase (qPCR, RPS18)	2.2 (FC)*	increase (WB, n.g.) increase (ELISA)	WB: 1.8 (ratio)* ELISA: 16.3 (ng/ml)* / 1.3 (ratio-calc)
		Kanzaki et al. (2006)	15%	sqPCR for 48h; ELISA for 72h	equibiaxial	increase (sqPCR, β -actin)	1.7 (ratio)*	increase (ELISA)	277.1 (pmol/L)* / 1.3 (ratio-calc)
	1	Monnouchi et al. (2011)	8%, 12%	1h	uniaxial	increase (sqPCR, GAPDH)	HPDLF-2E: 12%: 2.2 (FC)*	n.g.	n.g.
<i>TNFRSF11B</i> (static)	n. a.	Liao and Hua (2013)	1.5%	60min	equibiaxial	OPG: increase (qPCR, GAPDH) OPG/RANKL: increase (qPCR, GAPDH)	1.4 (ratio)* 1.2 (ratio)*	OPG: increase (ELISA) OPG/RANKL: increase (ELISA)	2127.7 (ng/mL)* / 1.2 (ratio-calc) 1.2 (rel)* / 1.7 (ratio-calc)
		Spencer and Lallier (2009)	10%	12h	equibiaxial	increase (sqPCR, S15rRNA)	2.3 (ratio)*	n.g.	n.g.
		Jacobs et al. (2015)	5%, 10%	12h	equibiaxial	OPG: increase (qPCR, actin + GAPDH) RANKL/OPG: temporary decrease	OPG @ 5%: 2.9 (FC)* RANKL/OPG @ 5%: 0.2 (ratio)*	increase (ELISA)	5%: 13.7 (ng/ml)* / 3.1 (ratio-calc)
		Jacobs et al. (2013)	1%, 5%, 10%	12h	equibiaxial	increase (qPCR, actin + GAPDH)	5%: 2.7 (FC)*	increase (ELISA)	10%: 44.6 (ng/10 ⁵ cells)* / control no OPG detectable
<i>TNFSF11</i> (dynamic)	0.005	Li et al. (2015)	5%	0.5h, 1h, 2h, 4h, 8h, 12h, 24h	uniaxial	increase (qPCR, GAPDH)	1h: 3.9 (ratio)*	increase (WB, GAPDH)	4h: 1.3 (rel)* / 3.3 (ratio-calc)
		Yang et al. (2010)	12%	0.5h, 1h, 2h, 4h, 6h, 12h, 24h	uniaxial	increase (sqPCR, β -actin)	24h: 0.7 (optical density) $\dagger$ / 14.0 (ratio-calc relative to t ₀)	n.g.	n.g.
	0.05	Nogueira et al. (2014)	20%	1d, 3d	equibiaxial	RANKL: decrease (qPCR, GAPDH) RANKL/OPG: increase	RANKL @ 3d: 0.3 (FC)* RANKL/OPG @ 1d: 4.5 (ratio)*	RANKL: decrease (ELISA) RANKL/OPG: increase	RANKL @ 1d: 0.6 (ratio)* RANKL/OPG @ 3d: 1.4 (ratio)*
	0.1	Lee et al. (2015)	12%	48h	equibiaxial	increase (qPCR, β -actin)	1.9 (rel)* / 1.2 (ratio-calc)	n.g.	n.g.
		Liu et al. (2017)	6%, 8%, 10%, 12%, 14%	12h	equibiaxial	HPDLSCs: increase (qPCR, β -actin)	HPDLSCs @ 14%: 1.8 (ratio)*	n.g.	n.g.

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
	0.17	Tsuji et al. (2004)	20%	48h	equibiaxial	no change (sqPCR, GAPDH)		n.g.	n.g.
	0.5	Kaku et al. (2019)	12%	48h	equibiaxial	n.g.	n.g.	increase (ELISA)	27.8 (pg/ml)†/ 3.3 (ratio-calc)
		Kanzaki et al. (2019)	15%	24h	equibiaxial	increase (qPCR, RPS18)	9.9 (FC)*	n.g.	n.g.
		Kanzaki et al. (2006)	15%	48h	equibiaxial	increase (sqPCR, β-actin)	12.9 (ratio)*	n.g.	n.g.
	1	Monnouchi et al. (2011)	8%, 12%	1h	uniaxial	decrease followed by increase (sqPCR, GAPDH)	HPDLF-2E: lowest @ 8%: 0.5 (FC)* HPDLF-2E: highest @ 12%: 1.3 (FC)*	n.g.	n.g.
TNFSF11 (static)	n. a.	Liao and Hua (2013)	1.5%	60min	equibiaxial	RANKL: increase (qPCR, GAPDH) OPG/RANKL: increase (qPCR, GAPDH)	1.2 (ratio)* 1.2 (ratio)*	RANKL: decrease (ELISA) OPG/RANKL: increase (ELISA)	1787.2 (ng/mL)* / 0.7 (ratio-calc) 1.2 (rel)* / 1.7 (ratio-calc)
		Spencer and Lallier (2009)	10%	12h	equibiaxial	decrease (sqPCR, S15rRNA)	0.2 (ratio)*	n.g.	n.g.
		Jacobs et al. (2015)	5%, 10%	12h	equibiaxial	RANKL: decrease followed by increase (qPCR, actin + GAPDH) RANKL/OPG: temporary decrease	RANKL lowest @ 5%: 0.6 (FC)* RANKL highest @ 10%: 2.4 (FC)* RANKL/OPG @ 5%: 0.2 (ratio)*	n.g.	n.g.
		Jacobs et al. (2013)	1%, 5%, 10%	12h	equibiaxial	increase followed by decrease (qPCR, actin + GAPDH)	highest @ 1%: 1.6 (FC)* lowest @ 5%: 0.7 (FC)*	n.g.	n.g.
COL1A1 (dynamic)	0.017	Nemoto et al. (2010)	5%	1h, 3h, 12h, 24h, 48h, 1d, 3d, 5d, 7d	uniaxial	short time: decrease (qPCR, GAPDH) long time: decrease (qPCR, GAPDH)	short time @ 24h: 0.3 (rel)* / 0.3 (ratio-calc) long time @ 3d: 0.2 (rel)* / 0.3 (ratio-calc)	n.g.	n.g.
	0.1	Yang et al. (2018)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	1.7 (FC)*	n.g.	n.g.
		Chen et al. (2015)	12%	24h	uniaxial	increase (qPCR, β actin)	1.2 (FC)*	n.g.	n.g.
		Lee et al. (2015)	12%	48h	equibiaxial	increase (qPCR, β-actin)	4.1 (ratio)*	n.g.	n.g.
		Wang et al. (2019b)	12%	qPCR for 12h, 24h, 48h; WB for 24h, 48h	equibiaxial	increase (qPCR, β-actin)	48h: 1.6 (FC)†	increase (WB, GAPDH)	48h: no quantitative information given

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
	0.5	Qin and Hua (2016)	5%	1h, 3h, 6h	n.g.	not reported with reference to force (qPCR, GAPDH)		increase (WB, GAPDH)	3h: 0.16 (rel)* / 3.2 (ratio-calc)
		He et al. (2004)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	5.695 (rel) / 4.4 (ratio-calc)	increase (ELISA)	4.1 (pg/cell)* / 3.5 (ratio-calc)
		Sun et al. (2016)	12%	1d, 5d	uniaxial	temporary decrease (qPCR, GAPDH)	1d: 0.7 (ratio)*	decrease (WB, GAPDH)	1d: 0.6 (ratio)*
		Sun et al. (2017)	12%	12h, 24h, 48h	uniaxial	decrease (qPCR, GAPDH)	24h: 0.5 (ratio)*	decrease (WB, GAPDH)	24h: 0.4 (ratio)*
		Yu et al. (2018)	12%	24h, 48h, 72h	equibiaxial	increase (qPCR, ACTB)	48h: 1.3 (FC)*	increase (WB, β -actin)	no quantitative information given
		Yamaguchi et al. (2002)	15%	30min, 90min, 6h	equibiaxial	temporary increase (sqPCR, GAPDH)	30min: 1.2 (ratio)*	n.g.	n.g.
COL1A1 (static)	n. a.	Takano et al. (2009)	5%, 10%	12h	uniaxial	increase (qPCR, β -actin)	10%: 1.9 (ratio)*	increase (ELISA)	10%: 2.4 (ug/ml)* / 1.7 (ratio-calc)
		Jacobs et al. (2013)	1%, 5%, 10%	12h	equibiaxial	decrease followed by increase then decrease (qPCR, actin + GAPDH)	1%: 0.8 (FC)† 5%: 1.1 (FC)† 10%: 0.7 (FC)†	n.g.	n.g.
PGE2 (dynamic)	0.005	Agarwal et al. (2003)	15%	12h, 24h, 48h	equibiaxial	n.a.	n.a.	increase followed by plateau (RIA)	24h...48h: 75.1† (?) / 15.6 (ratio-calc)
		Long et al. (2002)	1.8%, 3%, 6%, 10%, 12.5%	24h	equibiaxial	n.a.	n.a.	1.8%, 3%, 6%: no expression (RIA) 10%, 12.5%: increase (RIA)	12.5%: 102.8 (ng /10 ⁶ cells) / control: no PGE ₂ detectable
		Agarwal et al. (2003)	1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 10%, 12.5%, 15%, 18%	24h	equibiaxial	n.a.	n.a.	1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%: no expression (RIA) 10%, 12.5%, 15%, 18%: increase (RIA)	18%: 135 (ng/10 ⁶ cells)* / control n.g.
	0.017	Suzuki et al. (2014)	5%	6h	uniaxial	n.a.	n.a.	increase followed by plateau (ELISA)	1h...6h: 229.9 (pg/ml)* / 2.9 (ratio-calc)
	0.05	Nogueira et al. (2014)	3%, 20%	1d, 3d	equibiaxial	n.a.	n.a.	1d: increase (ELISA) 3d: increase followed by plateau (ELISA)	20% @ 1d: 28.3 (ratio)† 3...20% @ 3d: 4.3 (ratio)†

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
	0.1	Ohzeki et al. (1999)	18%	5d	equibiaxial	n.a.	n.a.	"young cells" (P5-7): increase (RIA) "aged cells" (P19-11): increase (RIA)	"young cells" (donor 1): 8.3 (ng/10 ⁶ cells) / 13.2 (ratio-calc); 2.5 (ug/mg protein) / 8.1 (ratio-calc) "aged cells" (donor 1): 12.0 (ng/10 ⁶ cells) / 24 (ratio-calc); 2.9 (ug/mg protein) / 11.6 (ratio-calc) "young cells" (donor 2): 9.3 (ng/10 ⁶ cells) / 18.6 (ratio-calc); 2.6 (ug/mg protein) / 8.4 (ratio-calc) "aged cells" (donor 2): 14.0 (ng/10 ⁶ cells) / 18.7 (ratio-calc); 3.2 (ug/mg protein) / 12.8 (ratio-calc) "young cells" (donor 3): 9.3 (ng/10 ⁶ cells) / 14.8 (ratio-calc); 2.5 (ug/mg protein) / 8.2 (ratio-calc) "aged cells" (donor 3): 12.0 (ng/10 ⁶ cells) / 19.0 (ratio-calc); 3.0 (ug/mg protein) / 10.7 (ratio-calc)
		Abiko et al. (1998)	18%	1d, 3d, 5d	equibiaxial	n.a.	n.a.	"young cells" (P5-6): increase (ELISA) "old cells" (P18-20): increase (ELISA)	"young cells" @ 5d: 8.20 (ng/10 ⁶ cells) / 14.9 (ratio-calc) "old cells" @ 5d: 12.25 (ng/10 ⁶ cells) / 18 (ratio-calc)
		Ohzeki et al. (1999)	18%	1d, 3d, 5d	equibiaxial	n.a.	n.a.	"young cells" (P5-7): increase (RIA) "aged cells" (P19-22): increase (RIA)	"young cells" @ 5d: 5.9 (ng/10 ⁶ cells) / 11.2 (ratio-calc) "aged cells" @ 5d: 12.1 (ng/10 ⁶ cells) / 17.3 (ratio-calc)
		Shimizu et al. (1995)	18%	1d, 3d, 5d	equibiaxial	n.a.	n.a.	increase (RIA)	5d: 7.9 (ng/10 ⁶ cells)* / 19.8 (ratio-calc)
		Yamaguchi et al. (1994)	18%	1d, 3d, 5d	equibiaxial	n.a.	n.a.	increase (RIA)	5d: 8.9 (ng/10 ⁶ cells)* / 17.8 (ratio-calc)
		Shimizu et al. (1998)	18%	1d, 2d, 3d, 4d, 5d	equibiaxial	n.a.	n.a.	increase (RIA)	5d: 9.1 (ng/10 ⁶ cells) / 10.1 (ratio-calc)
		Ohzeki et al. (1999)	9%, 18%	5d	equibiaxial	n.a.	n.a.	"young cells" (P5-7): increase (RIA) "aged cells" (P19-22): increase (RIA)	"young cells" @ 18%: 5.9 (ng/10 ⁶ cells) / 5.6 (ratio-calc) "aged cells" @ 18%: 11.6 (ng/10 ⁶ cells) / 9.4 (ratio-calc)
		Yamaguchi et al. (1994)	9%, 12%, 15%, 18%, 21%, 24%	5d	equibiaxial	n.a.	n.a.	increase (RIA)	24%: 14 (ng/10 ⁶ cells)* / 28 (ratio-calc)

Official gene symbol	Frequency (Hz)	Reference	Force magnitude	Force duration	Force type	Gene expression: Increase, decrease, other changes (method w/ reference gene)	Gene expression: When it reaches peak and peak's magnitude (fold change; times or ratio; unclear = ?)	Protein expression: Increase, decrease, other changes (method w/ reference)	Protein expression: When it reaches peak and peak's magnitude (times or ratio; unclear = ?)
PGE2 (static)	n. a.	Jacobs et al. (2014)	1%, 5%, 10%	12h	equibiaxial	n.a.	n.a.	increase (ELISA)	10%: 47.9 (pg/ml), ration can not be calculated
		Jacobs et al. (2018)	3%	12h	equibiaxial	n.a.	n.a.	no change (ELISA)	
		Ngan et al. (1990)	0.28%, 0.95%, 1.09%, 1.72%	5min, 15min, 30min, 60min	equibiaxial	n.a.	n.a.	0.28%: increase (RIA) 0.95%: temporary decrease (RIA) 1.09%: increase (RIA) 1.72%: increase (RIA)	0.28% @ 120min: 109 (pg/10 ⁴ PDL cells)* / 1.1 (ratio-calc) 0.95% @ 15min: 98 (pg/10 ⁴ PDL cells)* / 0.9 (ratio-calc) 1.09% @ 120min: 111 (pg/10 ⁴ PDL cells)* / 1.1 (ratio-calc) 1.72% @ 30min: 101 (pg/10 ⁴ PDL cells)* / 1.7 (ratio-calc)
SP7 (dynamic)	0.005	Li et al. (2015)	5%	0.5h, 1h, 2h, 4h, 8h, 12h, 24h	uniaxial	increase (qPCR, GAPDH)	24h: 14.0 (ratio)*	increase followed by plateau (WB, GAPDH)	12h...24h: 1.6 (rel)* / 4.2 (ratio-calc)
	0.1	Yang et al. (2018)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	1.7 (FC)*	n.g.	n.g.
		Chang et al. (2017)	12%	72h	equibiaxial	n.g.	n.g.	increase (WB, β-actin)	72h: 26 (ratio)*
		Wang et al. (2019b)	12%	qPCR for 12h, 24h, 48h; WB for 24h, 48h	equibiaxial	increase followed by plateau (qPCR, β-actin)	24h...48h: 1.5 (FC)†	increase (WB, GAPDH)	48h: no quantitative information given
	0.5	Tang et al. (2012)	0.3%	3h, 6h, 12h, 24h	uniaxial	increase (qPCR, GAPDH)	24h: 15.4 (rel)* / 8.6 (ratio-calc)	increase (WB, GAPDH)	24h: 1.2 (rel)* / 1.4 (ratio-calc)
		Li et al. (2013)	10%	12h, 24h, 48h	equibiaxial	decrease (qPCR, GAPDH)	48h: 0.1 (FC)*	temporary increase (WB, GAPDH)	24h: 0.5 (rel)* / 1.3 (ratio-calc)
		Li et al. (2014)	10%	24h	equibiaxial	increase (qPCR, GAPDH)	2.7 (rel)* / 5.7 (ratio)*	increase (WB, GAPDH)	0.05 (rel)* / 1.3 (ratio-calc)
		Ren et al. (2015)	10%	1h, 3h, 6h, 12h, 18h, 24h	equibiaxial	increase (qPCR, GAPDH)	12h: 4.3 (FC)*	n.g.	n.g.
		Yu et al. (2018)	12%	24h, 48h, 72h	equibiaxial	increase (qPCR, ACTB)	72h: 3.3 (FC)*	increase (WB, β-actin)	no quantitative information given
		Wang et al. (2019a)	10%	12h	equibiaxial	increase (qPCR, GAPDH)	4.5 (FC)*	n.g.	n.g.

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