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ERANET+ *LightPatch*

BLUE LED light effects in an in vivo murine model of ulcer

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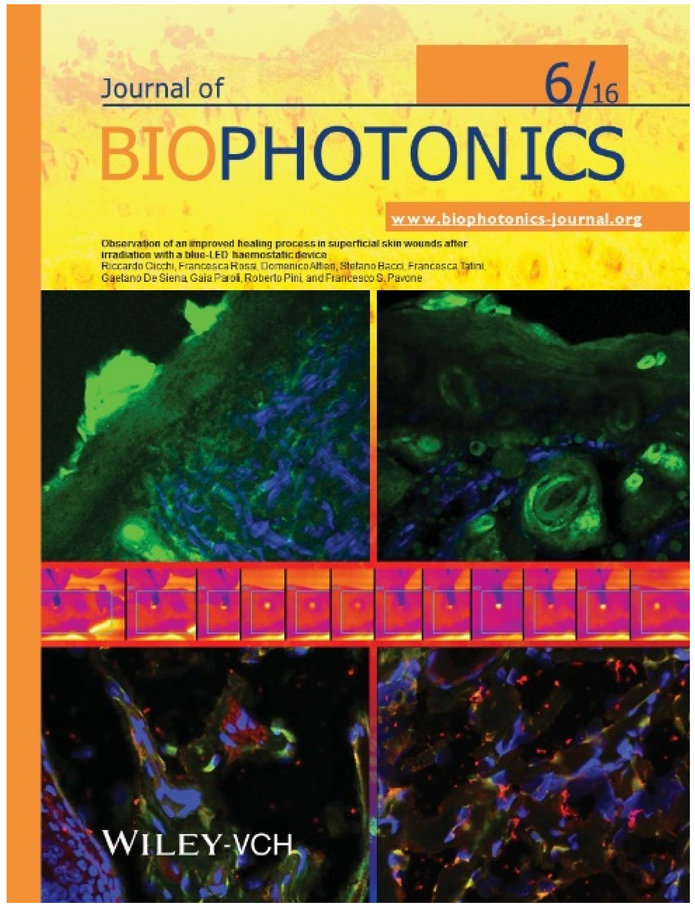
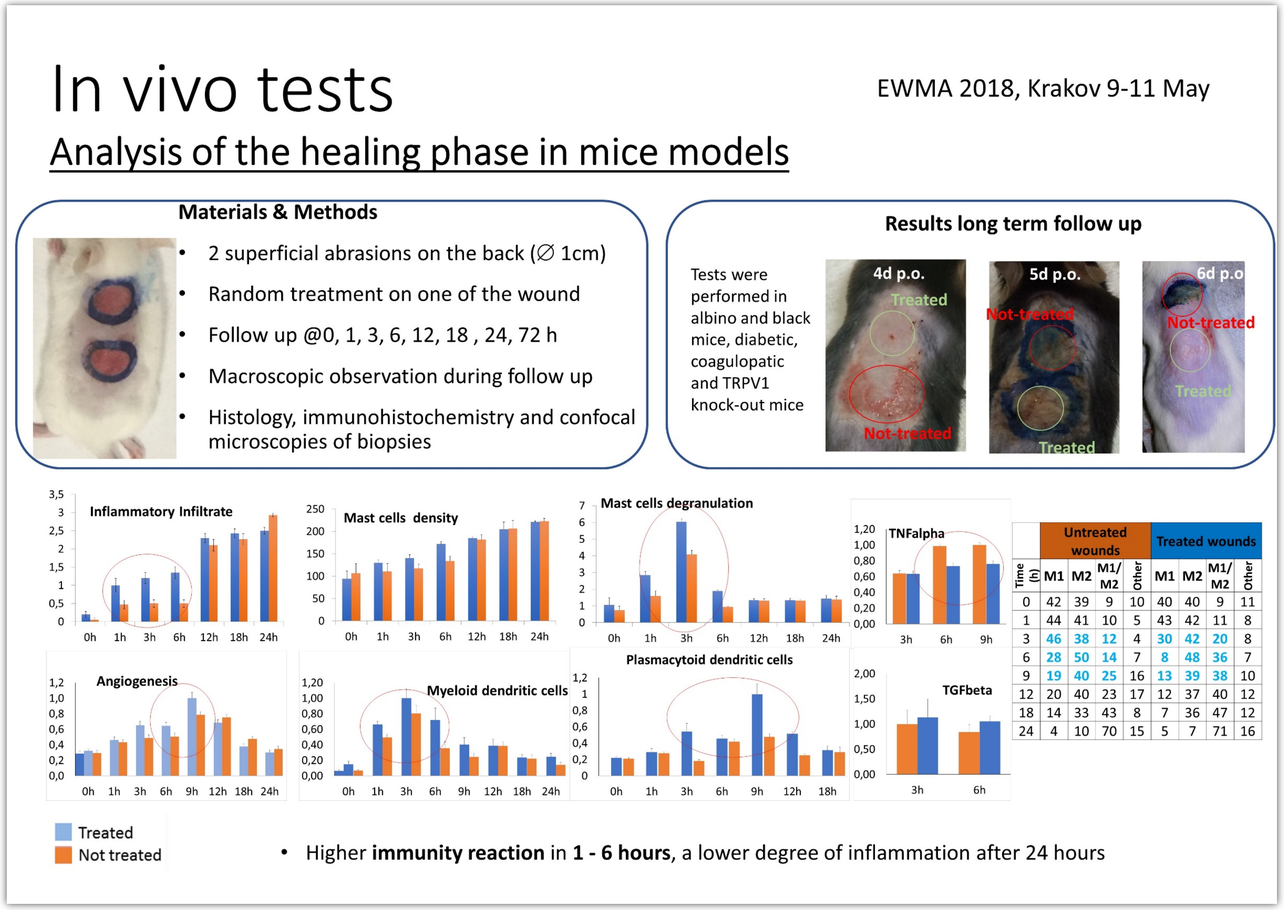
Introduction

- The Blue LED light induces a fast and improved healing process in murine model – superficial abrasion





	Untreated wounds				Treated wounds			
Time (h)	M1	M2	M1/M2	Other	M1	M2	M1/M2	Other
0	42	39	9	10	40	40	9	11
1	44	41	10	5	43	42	11	8
3	46	38	12	4	30	42	20	8
6	28	50	14	7	8	48	36	7
9	19	40	25	16	13	39	38	10
12	20	40	23	17	12	37	40	12
18	14	33	43	8	7	36	47	12
24	4	10	70	15	5	7	71	16

Observation of an improved healing process in superficial skin wounds after irradiation with a blue-LED haemostatic device. Cicchi R, Rossi F, et al. J Biophotonics. 2016 doi:10.1002/jbio.201500191.

Aim: To study the Blue LED light in deep wounds

Mat & Meth

1. 63 CD1 mice- back shaved
2. Punch ∅ 4mm
3. 30 s Blue LED treatment (20.6 J/cm^2)
4. 3 Groups:
   - G1: 1 full-thickness wound treated
   - G2: 1 full-thickness wound, used as a control (no treatment)
   - G3: 2 full-thickness wound (1 treated, 1 not treated)
5. Follow up @ 1, 3, 6, 9, 24 hours; 7 and 14 days
6. Analysis with a customized ELISA kit

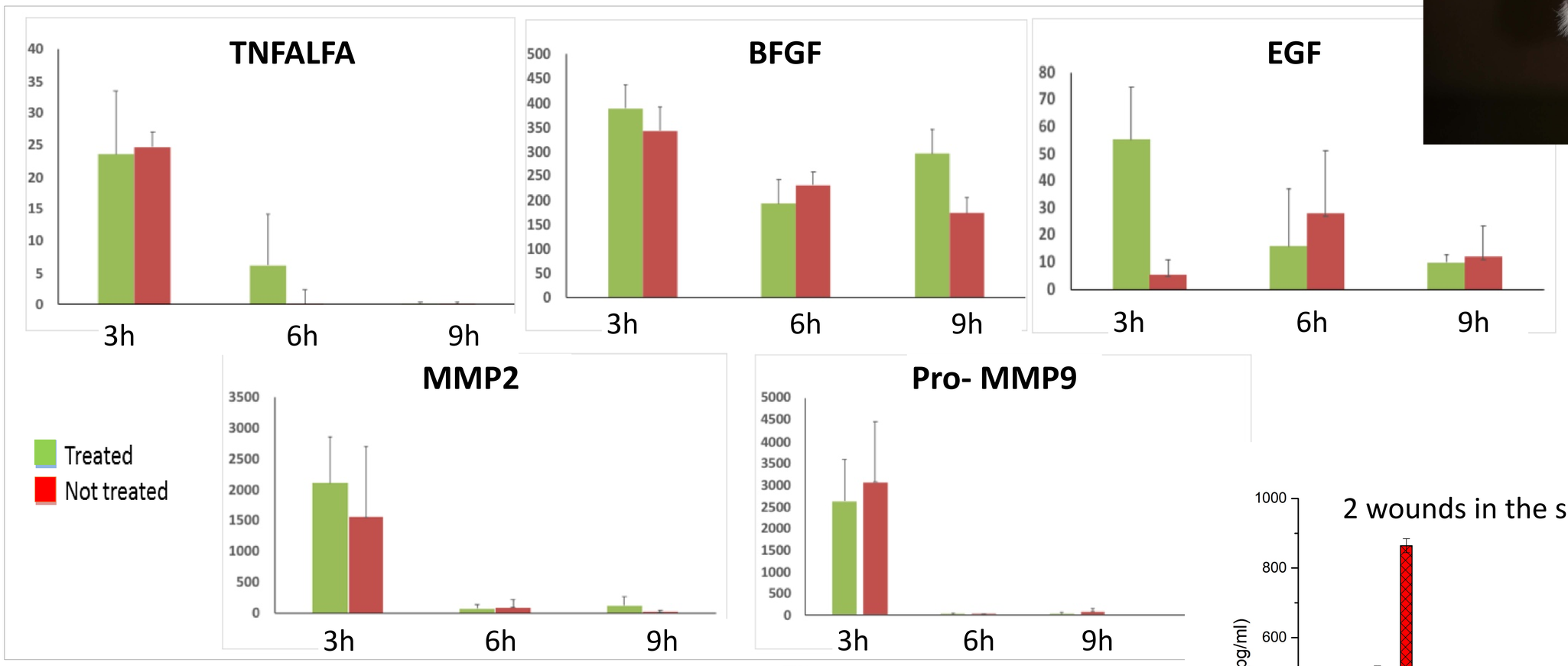
G3

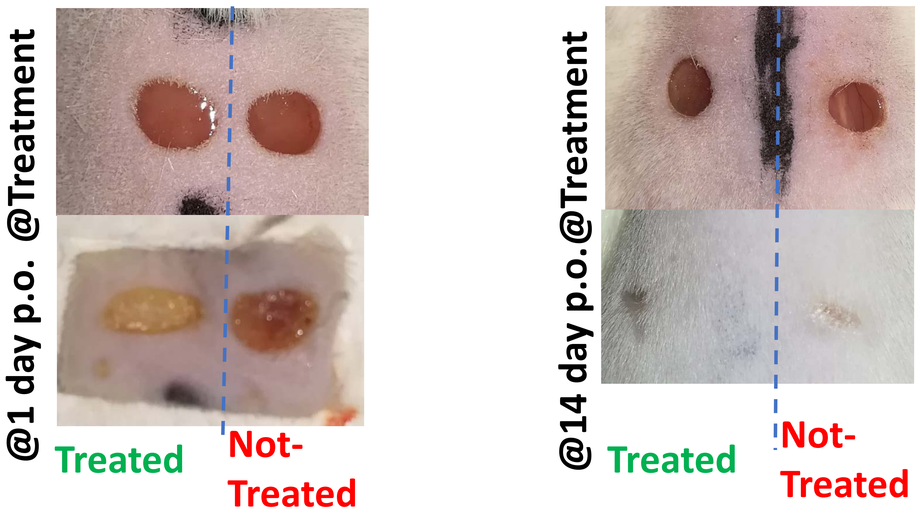
G1/G2

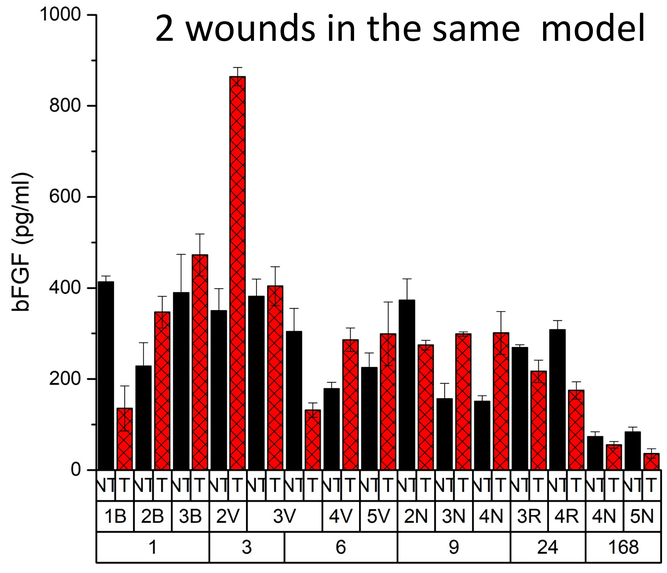
The LED source

Results

KIT ELISA (custom)







Conclusions

- In an in vivo ulcer model we demonstrated:
    - An acceleration of the healing phase (earlier starting point)
    - No cross-talk between wounds in the same animal model
    - Healing process completed @14days with no differences between treated and naturally healed

➢Blue LED light is inducing modulation of the healing process