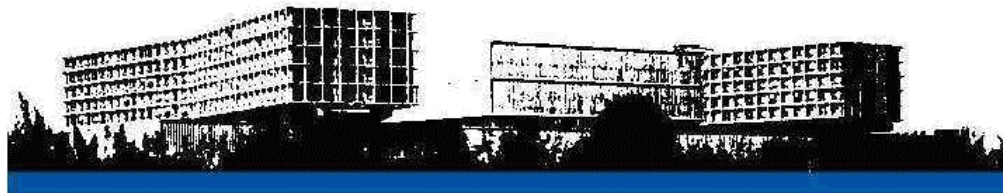


Principles and practice of novel opioid applications

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Overview

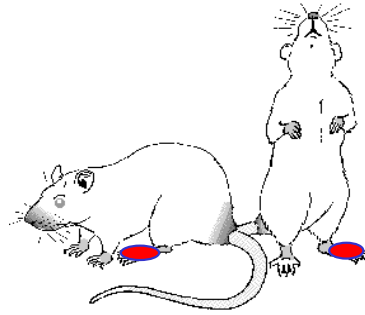
Principles of local opioid analgesia

- Classification of opioid receptors and ligands
- Animal models
- Peripheral opioid receptors and ligands
- Anti-inflammatory effects of locally applied opioids

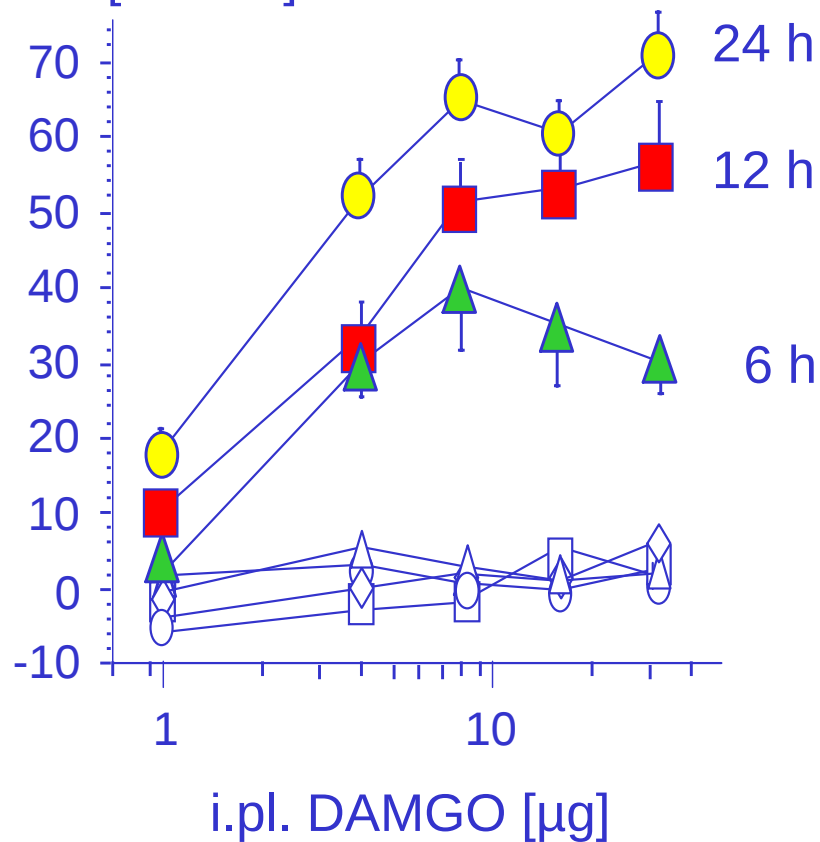
Clinical studies of local topical opioid analgesia

- Intra-articular opioid application
- Topical opioids in burns, tumours, skin ulcerations, mucositis

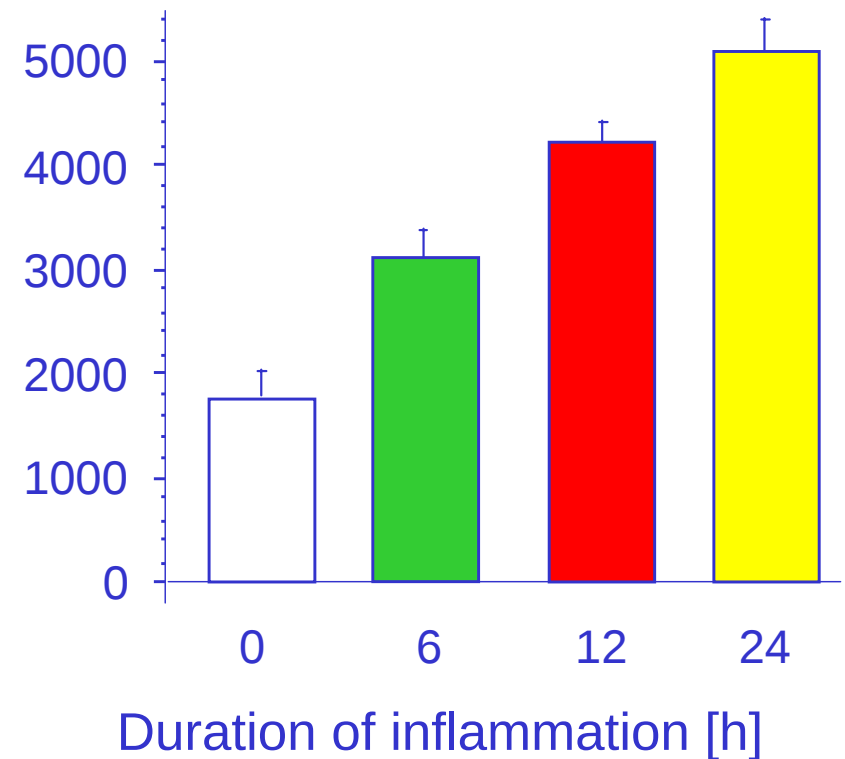
Analgesic efficacy of peripheral opioid agonists increases with duration of inflammation



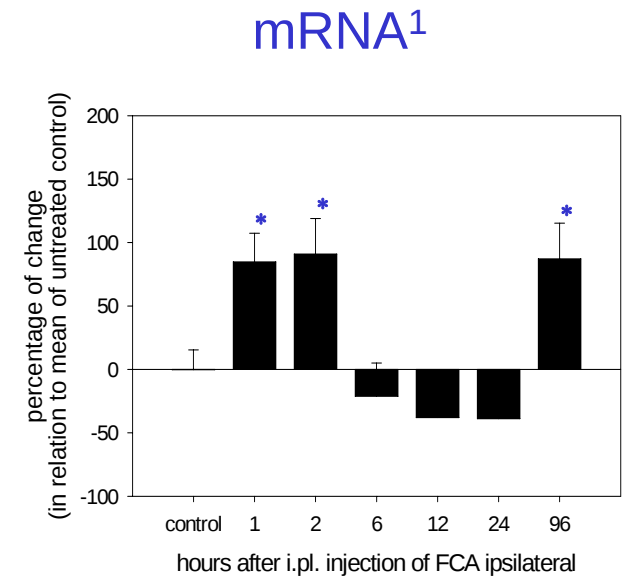
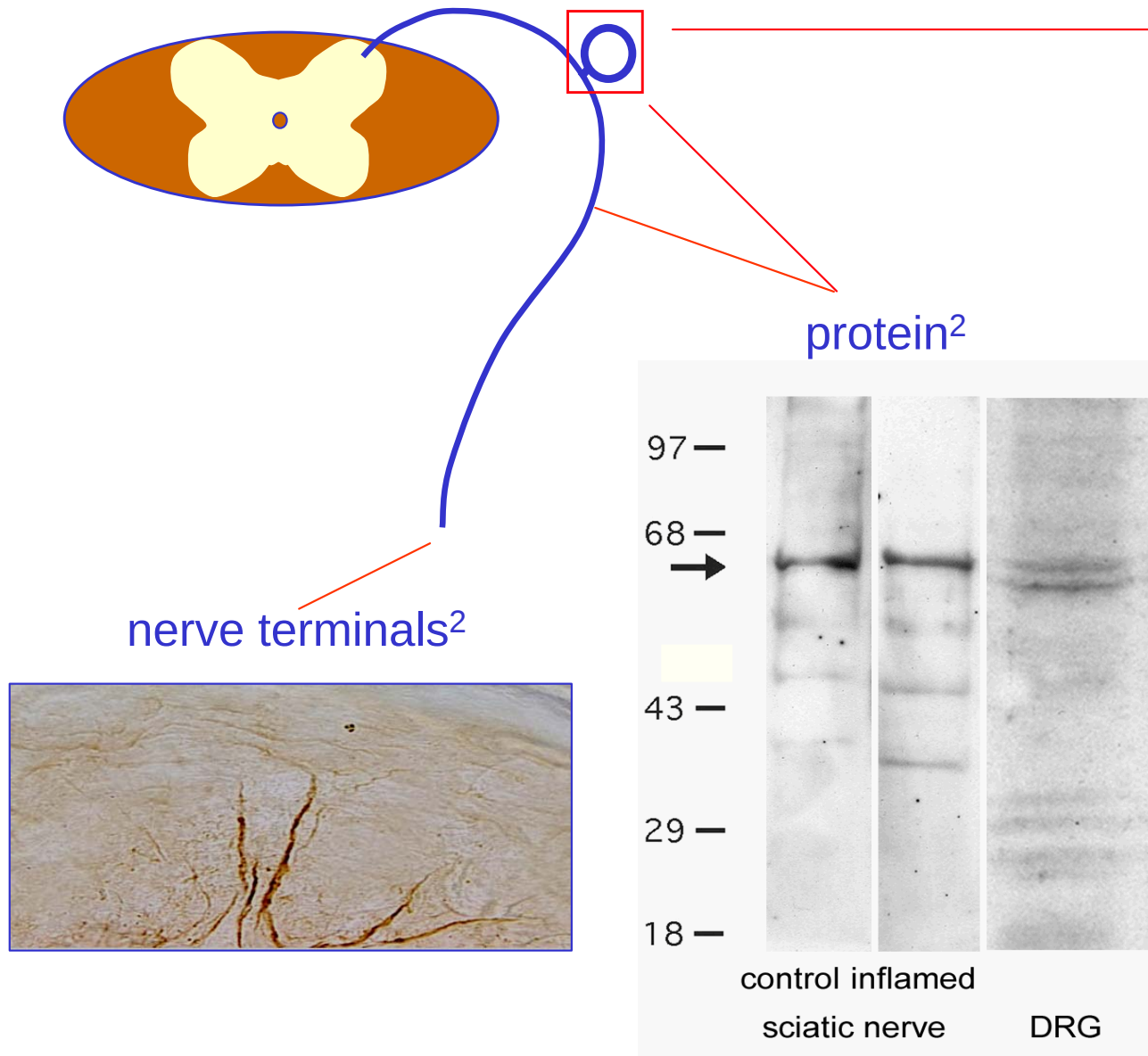
Paw pressure
threshold [%MPE]



Area under
the curve

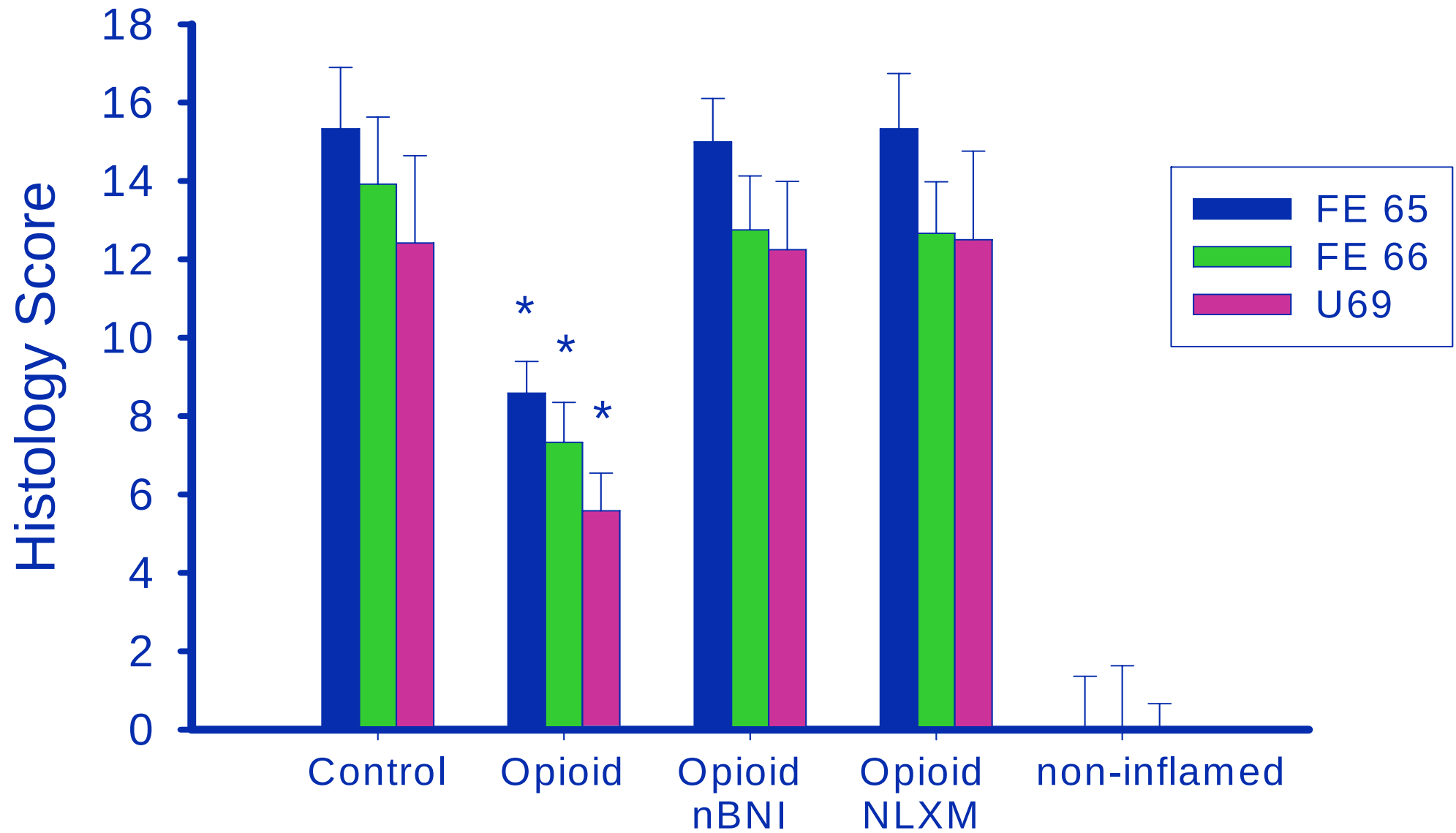


μ -Opioid receptor mRNA and protein in DRG and sensory neurons



1. Pühler W, et al. Neuroscience 2004; 129: 473-9. 2. Mousa SA, et al. J Neuroimmunol 2001; 115: 71-8.

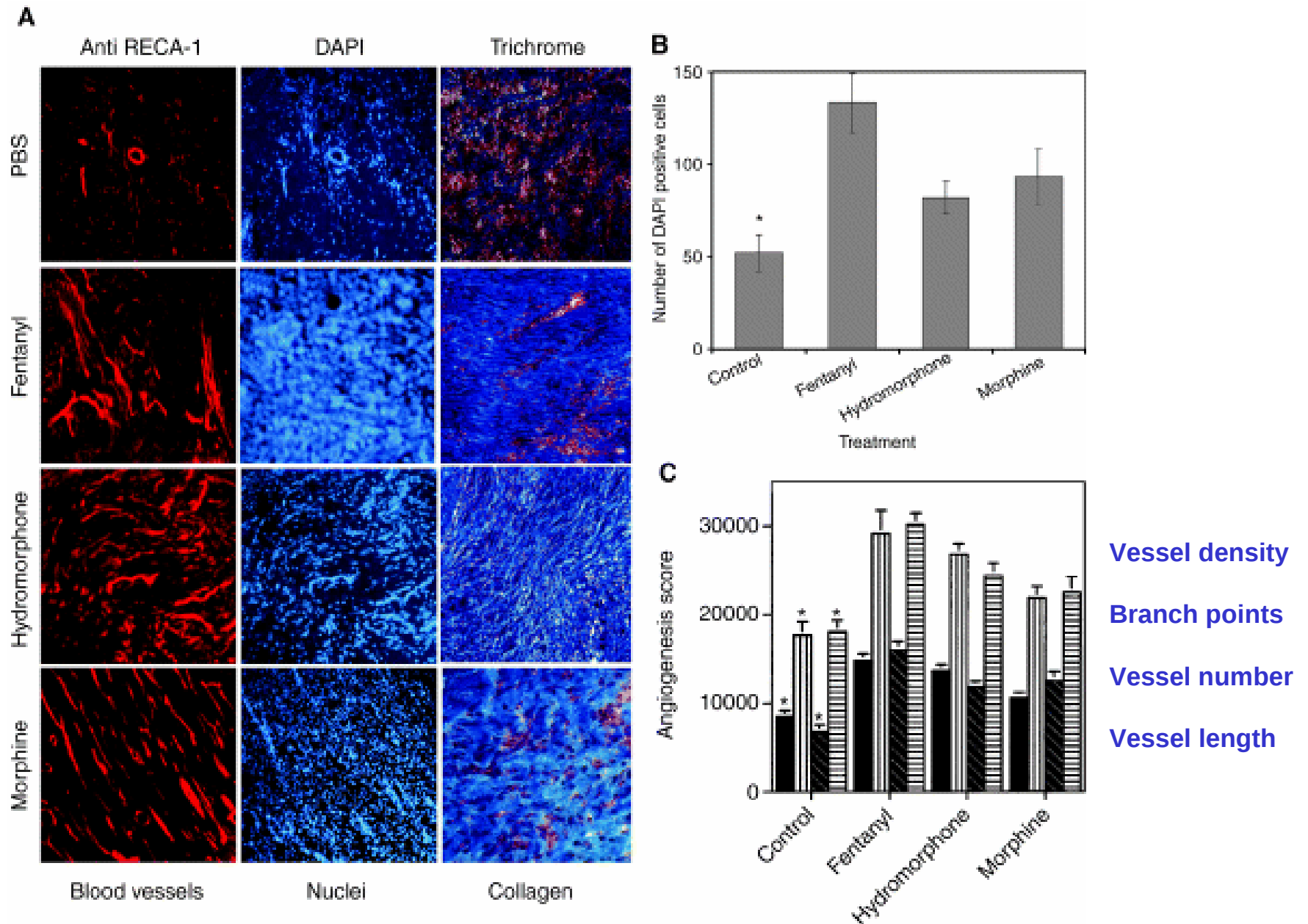
Antiinflammatory effects of i.pl. κ -agonists

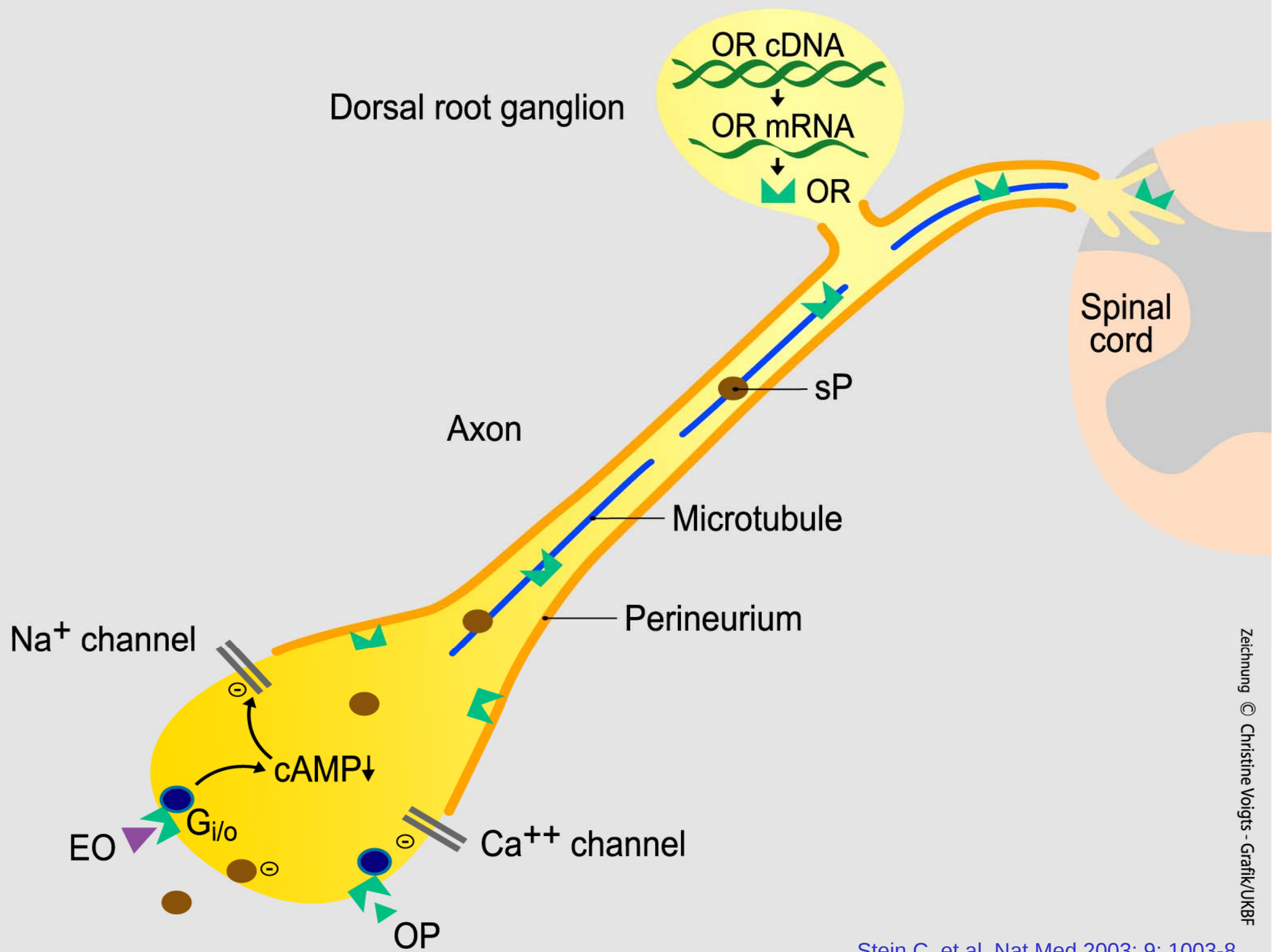


Periarticular inflammation
Pannus formation
Periosteal reaction

Treatment

Angiogenesis, cell density and collagen formation in ischaemic wounds 8 days after topical opioids



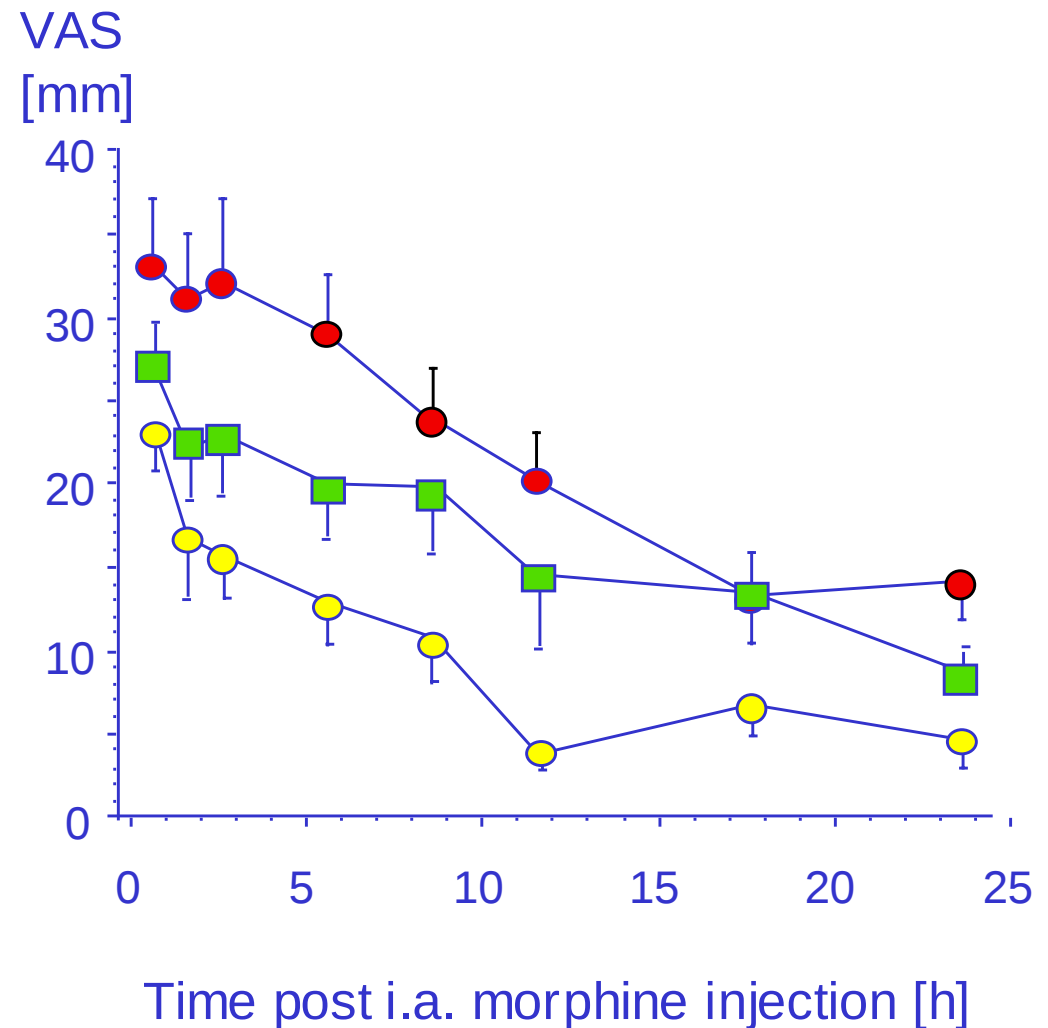


Dose-dependent reduction of postoperative pain by intra-articular morphine

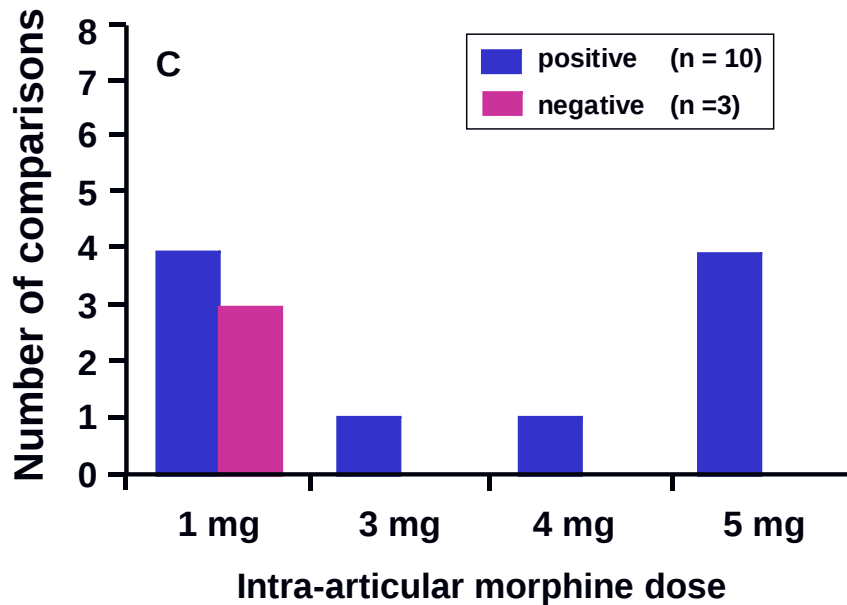
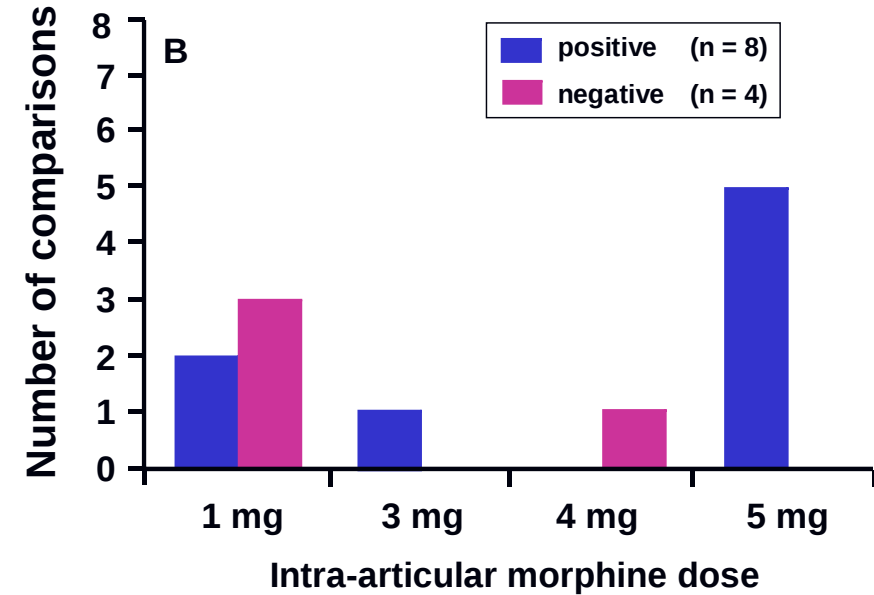
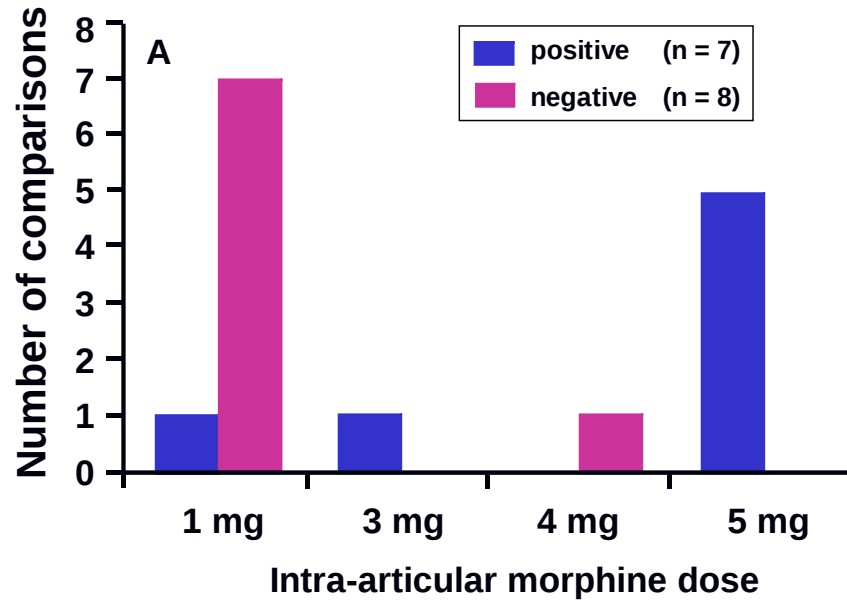
■ NaCl (n=22) ■ 2 mg morphine (n=21) ■ 4 mg morphine (n=19)



Knee arthroscopy



Intra-articular morphine studies



A: 0–2 h post-op.

B: 2–6 h post-op.

C: 6–30 h post-op.

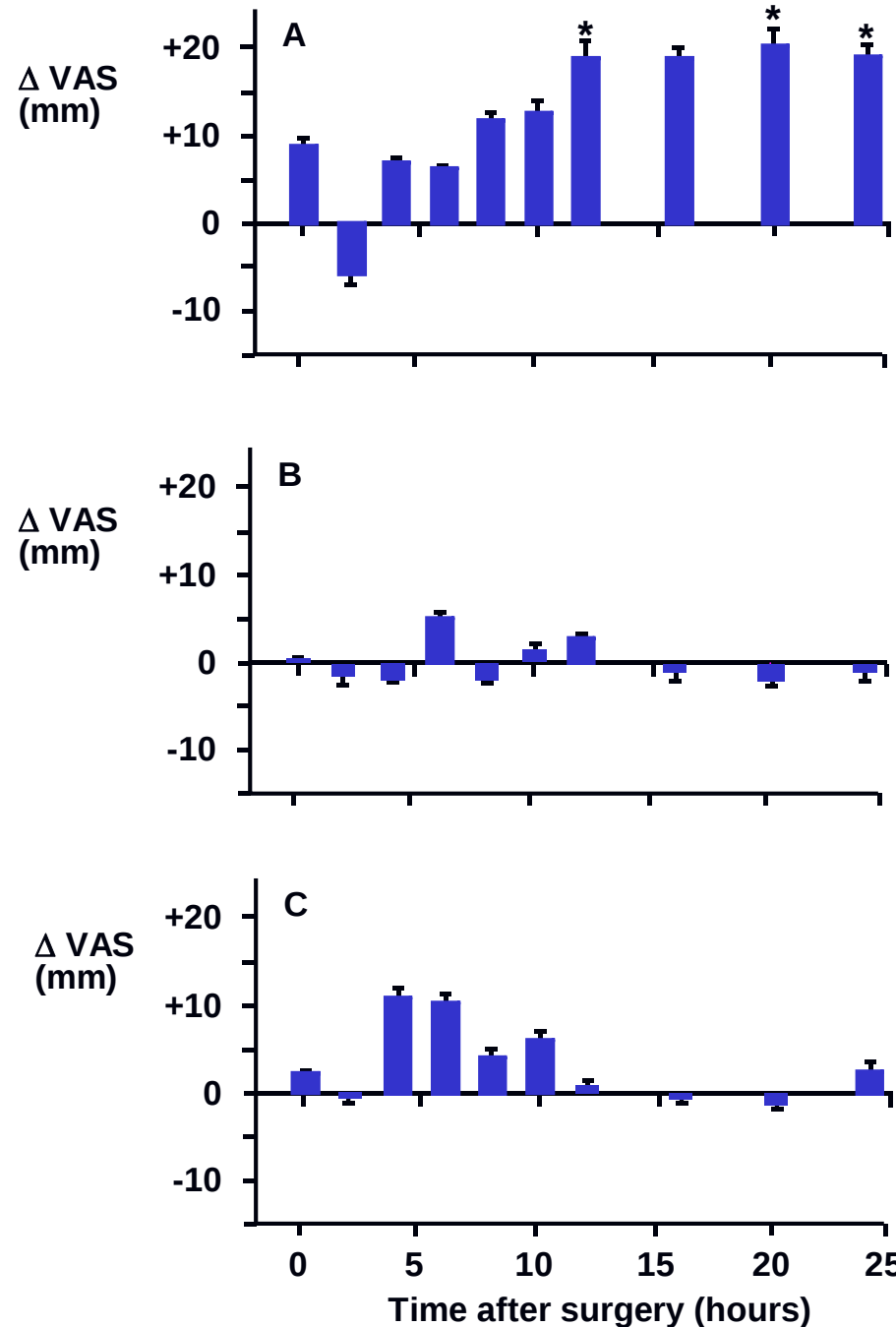
Local morphine in dental surgery

$$\Delta VAS = VAS_{sal} - VAS_{mor}$$

Morphine (1mg)
+ Articaine

vs.

Saline
+ Articaine

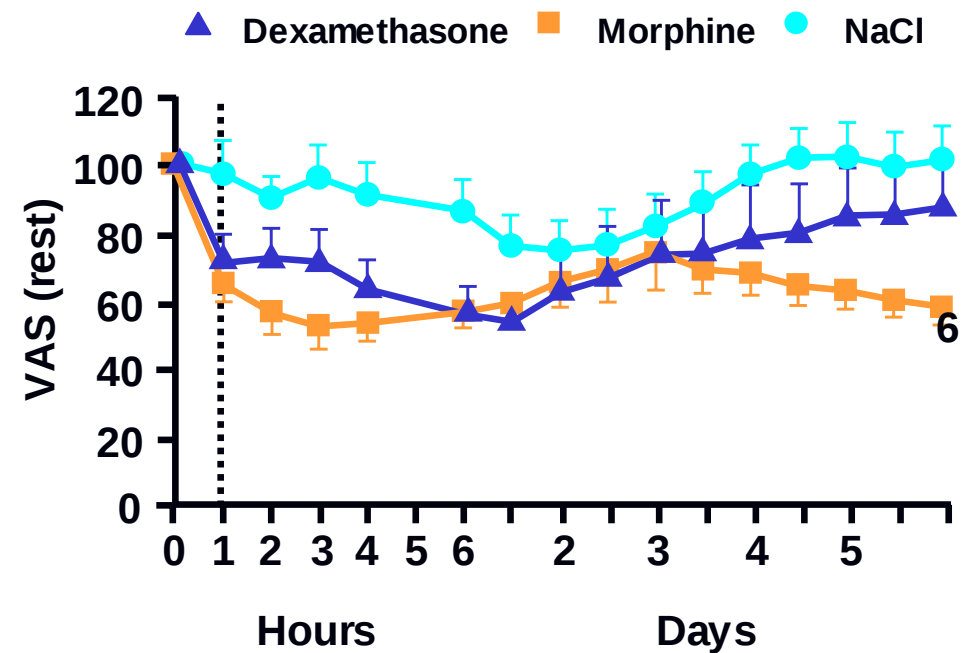
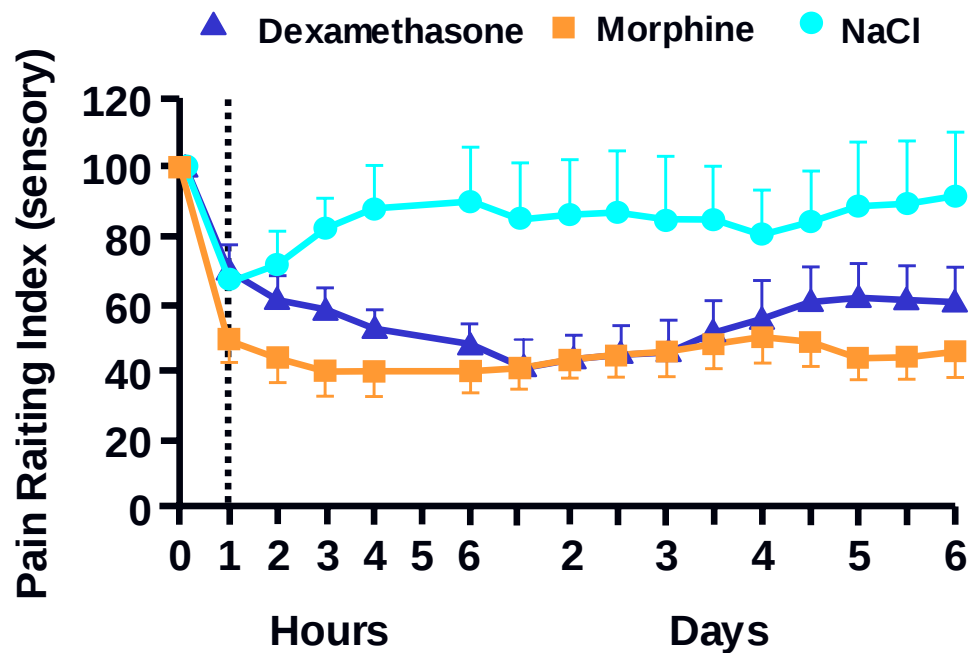


Inflamed tissue

Noninflamed tissue

Perineural injection

Intra-articular morphine versus dexamethasone in chronic arthritis



Reduction of synovial cell numbers by Intra-articular morphine

