MONOCLONAL ANTIBODIES AS A NEW TREATMENT FOR OSTEOARTHRITIS IN DOGS AND CATS

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INTRODUCTION

Very frequently encountered, osteoarthritis is a progressive, irreversible, and very painful process. Understanding the mechanism of osteoarthritis pain and its associated factors is an important issue for the therapeutic management of osteoarthritis. Immunotherapy, and more particularly anti-NGF monoclonal antibodies, have been developed to specifically target one of the actors in the pain associated with osteoarthritis, NGF.

OBJECTIVES

- Brief description of the involvement of NGF in osteoarthritic pain.
- Explain the function of anti-NGF monoclonal antibodies in dogs and cats.
- Overview the efficacy and safety of anti-NGF monoclonal antibodies for the treatment of osteoarthritis pain.

NGF AND OSTEOARTHRITIS PAIN

- ↑ density nociceptive fibers
- Maintains neurogenic inflammation
- Central and peripheral sensitization

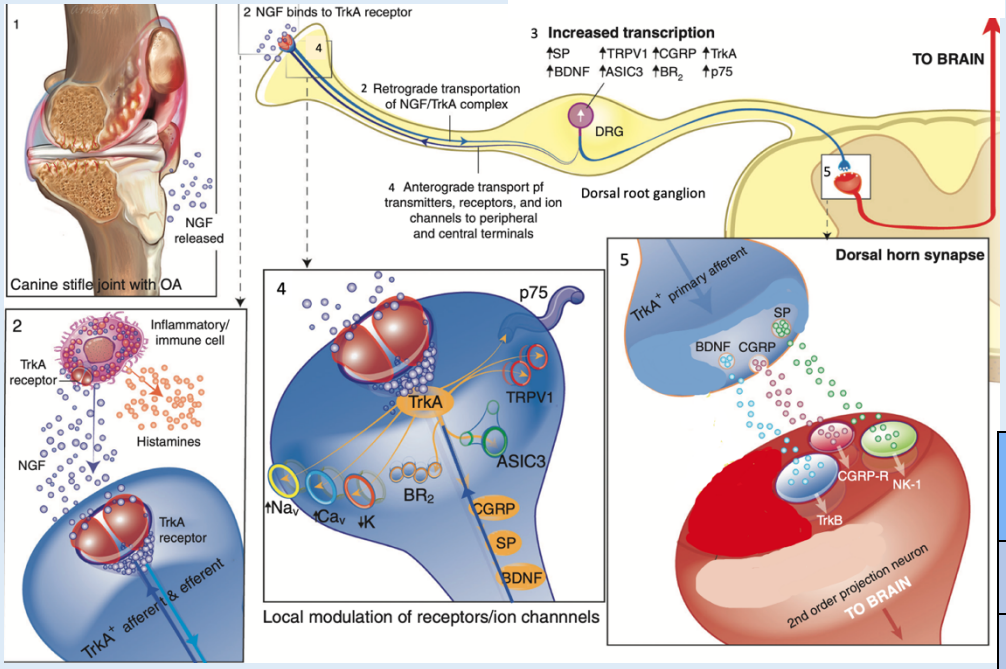
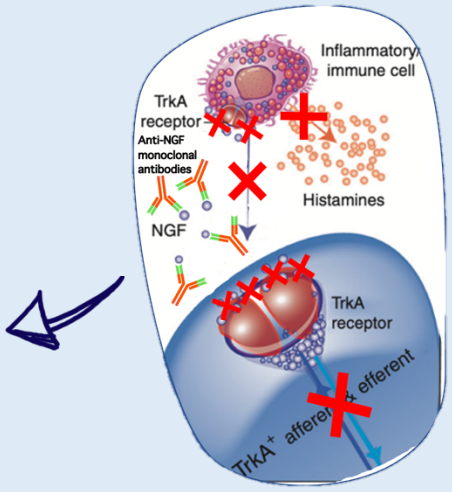


Figure 1. Role of NGF in osteoarthritis pain (Enomoto et al. 2019)

MONOCLONAL ANTIBODIES



Anti-NGF monoclonal antibodies	Durat-ion of action	Adverse effects
Bedinvetmab (dog)	1 month	Injection site reaction
Frunevetmab (cat)		Skin disorders Immunogenicity (1.5%)

CONCLUSION

- This chronic degenerative joint disease is generally under-diagnosed, especially in cats. Early identification and treatment of osteoarthritis pain considerably improve the **animal's mobility and quality of life.**

- **NGF** is a key element in osteoarthritis pain, particularly in the **transmission of pain messages**, but also through its involvement in **neurogenic inflammation.**

- **Anti-NGF monoclonal antibodies** are revolutionizing pain management related to osteoarthritis by specifically targeting NGF. Therefore, this treatment offers an **effective, safe, and well-tolerated** solution for long-term control of **chronic pain** in both dogs and cats.