

# Tg3647 a slow progressing model of chronic arthritis

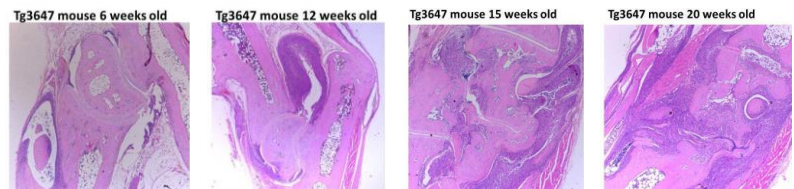
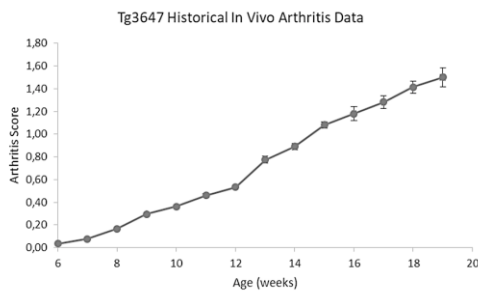


**Rheumatoid arthritis (RA)** is a disease characterized by chronic inflammation of the joints associated with bone and cartilage destruction. RA is a severe burden to patients leading to disability, pain, severe impairment of quality of life, and even life threatening conditions resulting in significantly enhanced mortality.

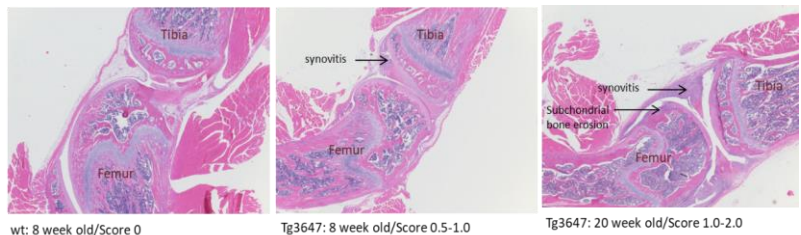
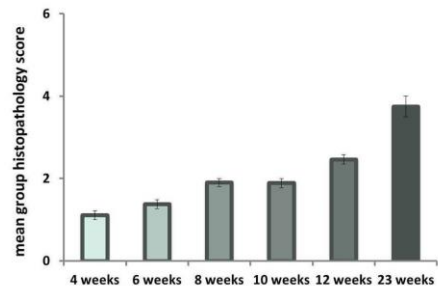
## Model Description

### Tg3647 Model description

Tg3647 mice over-express human TNF that leads to the gradual development of spontaneous slow progressing chronic inflammatory polyarthritis with 100% penetrance.



Representative histopathology photos of the ankle joints at different stages of the disease from Tg3647 mice



Representative histopathology photos of the knee joints at different stages of the disease from Tg3647 mice

Clinical (upper panel) and histopathological (lower panel) Progression of arthritis pathology with age in the Tg3647 model of arthritis

# Tg3647 a slow progressing model of chronic arthritis



## Modes of administration

- intraperitoneal
- subcutaneous
- intraarticular

## Read-out parameters

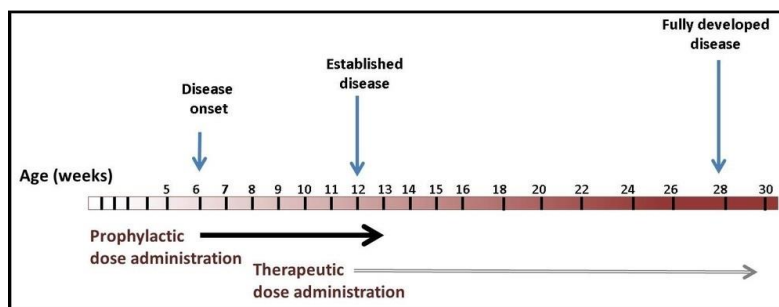
- In vivo arthritis scoring
- histopathological arthritis evaluation of the joints

## The Tg3647 Preclinical Platform

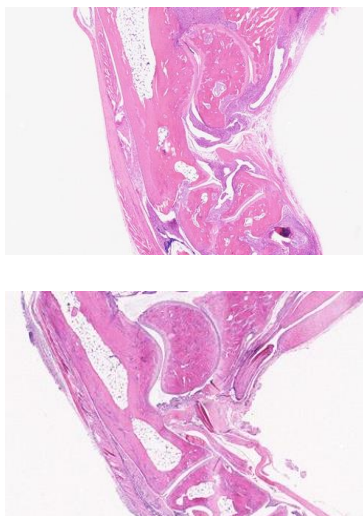
The Tg3647 mouse offers an ideal preclinical platform for the evaluation of therapeutics requiring a long therapeutic window in a slow progressing and chronic arthritis disease mouse model.

## Study design

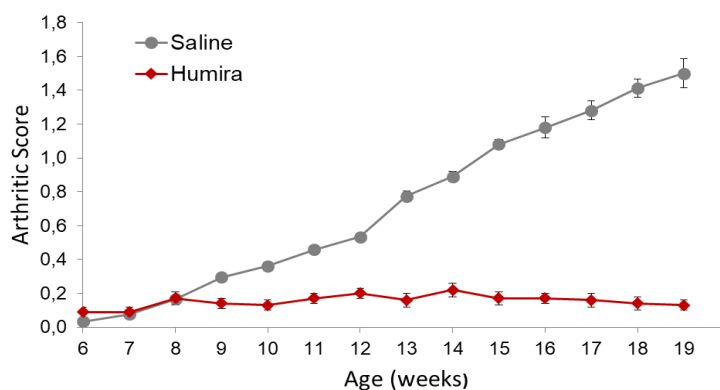
Preclinical drug efficacy can be evaluated in an early regimen starting at 6 weeks of age or at a later regimen starting at any phase of the established disease.



Representation of different treatment protocols applied in the Tg3647 mouse model of arthritis



Representative histology photos of Tg3647 animals untreated (left image) or treated with Humira (right image)



Representative efficacy data obtained from the Tg3647 mouse model of slow progressing chronic arthritis.

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## References

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2. Zhang Q. et al. (2007) *Arthritis Research & Therapy*, doi:10.1186/ar2326. *Increased lymphangiogenesis in joints of mice with inflammatory arthritis*
3. Zhang H. et al. (2014) *J Clin Invest*, 124, 3200-3214, doi:10.1172/JCI68901. *NOTCH inhibits osteoblast formation in inflammatory arthritis via noncanonical NF- $\kappa$ B.*
4. Li P, Schwarz EM. (2003) *Springer Semin Immunopathol.* 25(1):19-33. *The TNF-alpha transgenic mouse model of inflammatory arthritis.*