



CBI

Hypertrophic scar formation in rabbits

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COMPARATIVE BIOSCIENCES, INC.
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- **18 years** of experience
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- **AAALAC Accreditation**



Hypertrophic scar formation in Rabbits

- Creation of a circular lesion with removal of the perichondrium elicits a proliferative fibrosis resulting in scar formation on the rabbit ear
- This lesion can be measured and effects of test article determined
- Typical study setup:
 - 6 weeks with dosing at day of wound formation
 - After formation of scar (~3 weeks) with 3-4 weeks treatment
 - With 2-3x weekly assessments and followed by histopathology for each
- Test article may be applied topically or intralesion injection
- Recommended group size is 5-6 animals per group with 4 lesions per ear
- Vehicle and test article applied to lesions



Hypertrophic scar formation in Rabbits



Top: Appearance immediately post surgically



Middle: Untreated lesions-there is clear scar formation present



Bottom: Triamcinolone treated: There is more healing and less scar formation



Hypertrophic scar formation in Rabbits

- Screening study-proposed design

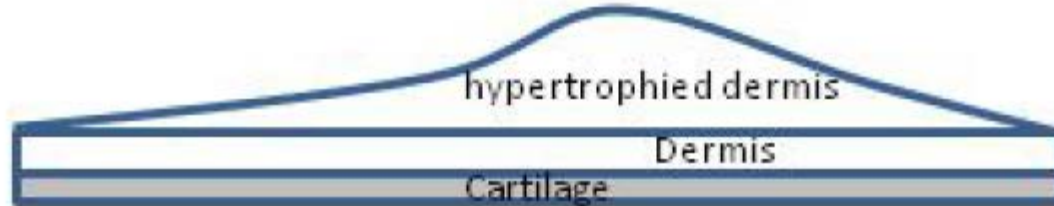
Group	No Rabbits	In life observations	Necropsy
Vehicle and sham	5	Photos of lesions 1x week for 6 weeks	<ul style="list-style-type: none">• Histopathology (including IHC) and quantitative assessment of scar formation• qPCR of Scar Samples
TA low dose	5		
TA mid dose	5		
TA high dose	5		



Hypertrophic scar formation in Rabbits

- Quantitative Histology Assessment
 - Scar Elevation Index (SEI)
 - Morris et al. (1997)

$$SEI = A-h / A-d.$$



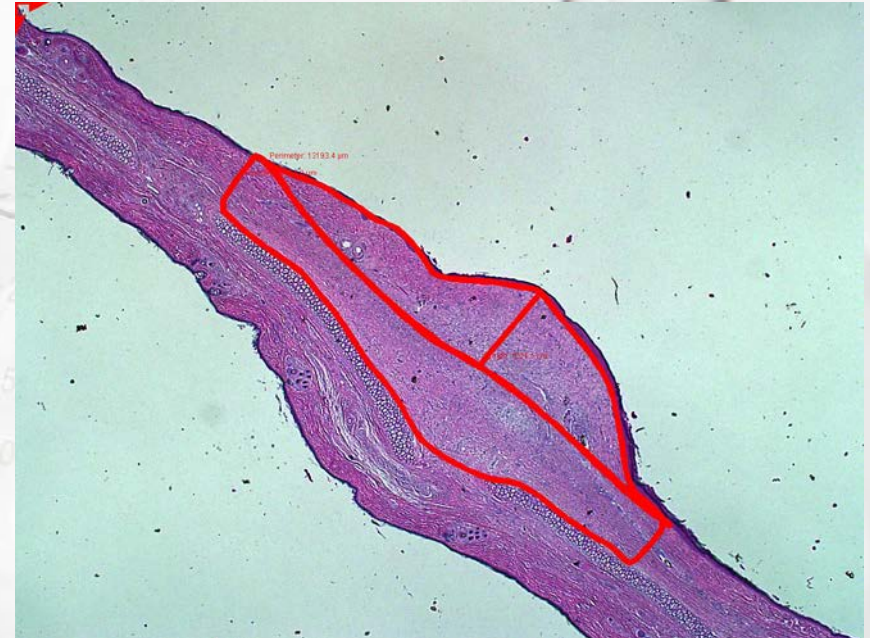
Hypertrophic scar formation in Rabbits

- Normal Rabbit
- Scar at 3 weeks



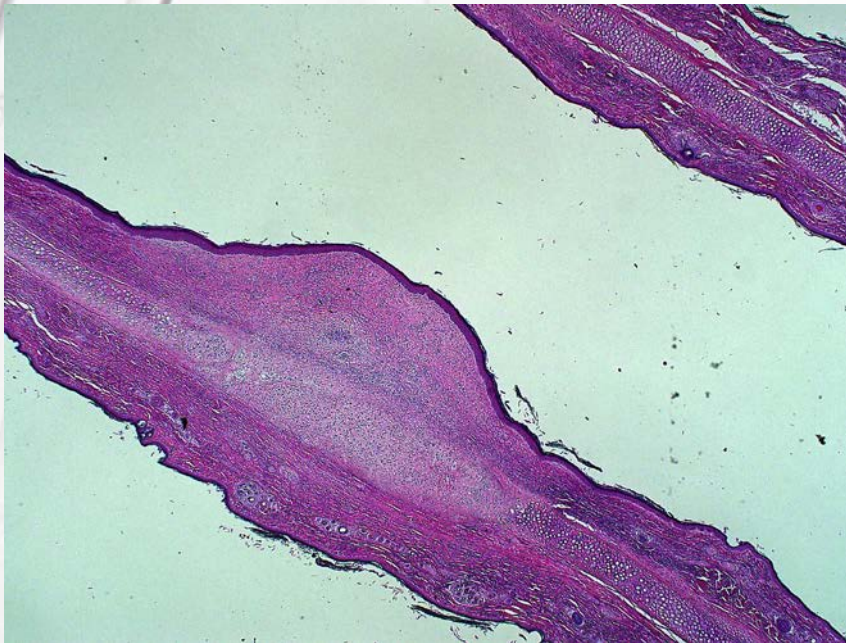
Hypertrophic scar formation in Rabbits

- Three weeks, scar induction, no treatment
- Three weeks, scar induction, no treatment, demonstrating area measured for histomorphometry

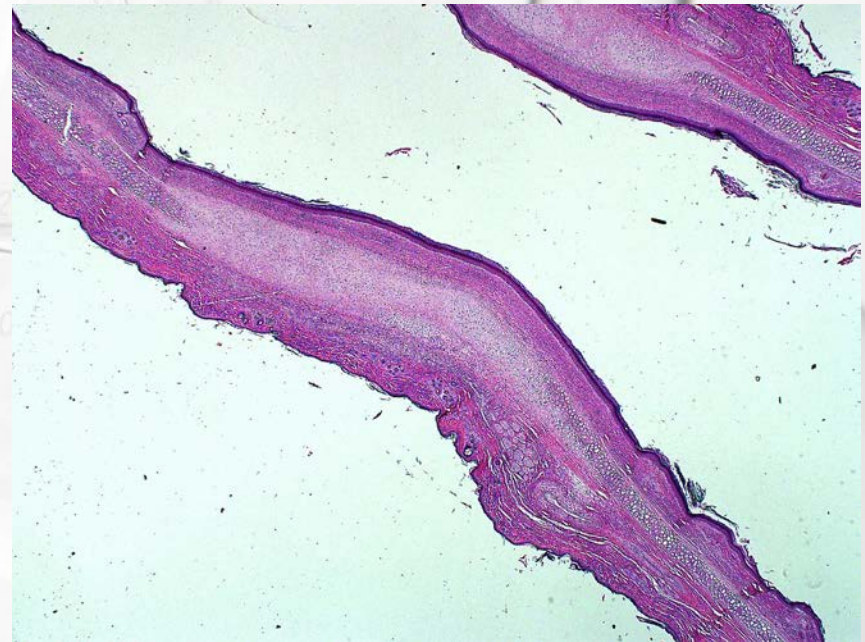


Hypertrophic scar formation in Rabbits

- Three weeks, scar induction, no treatment



- Three weeks, scar induction, treatment with Test Article

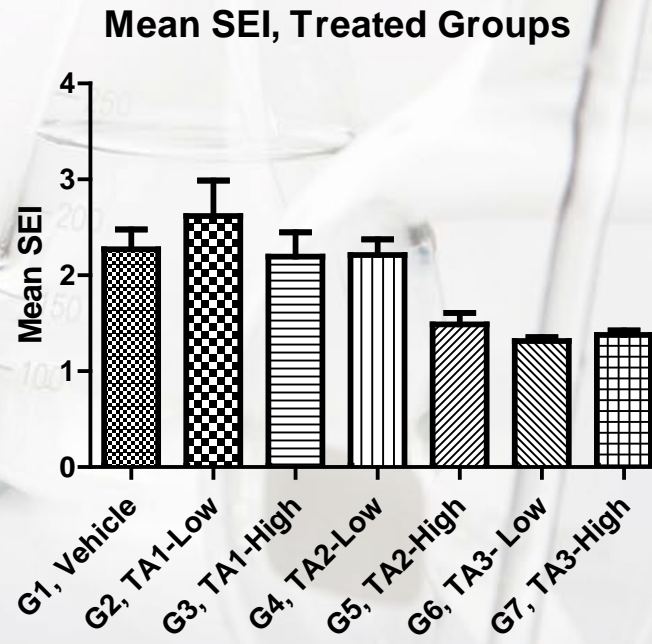


Hypertrophic scar formation in Rabbits

- Study Summary, SEI of Wounds Treated

Please note

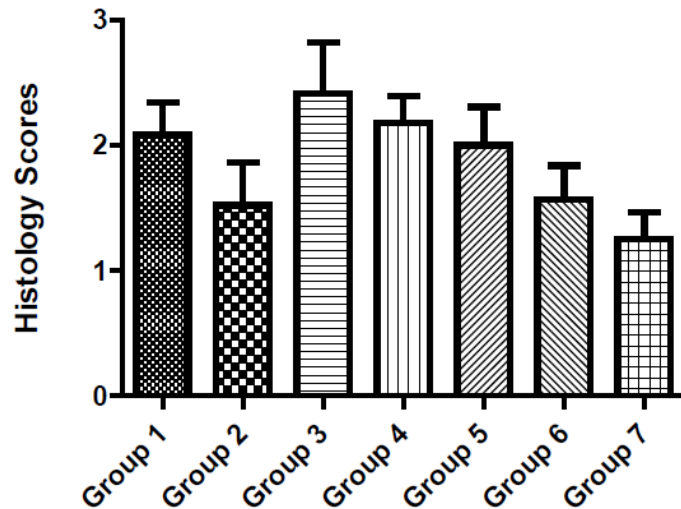
- Decreased SEI compared to vehicle shows efficacy
- TA 1 shows no efficacy at both doses
- TA 2 shows efficacy only in high dose
- TA 3 shows efficacy in both doses



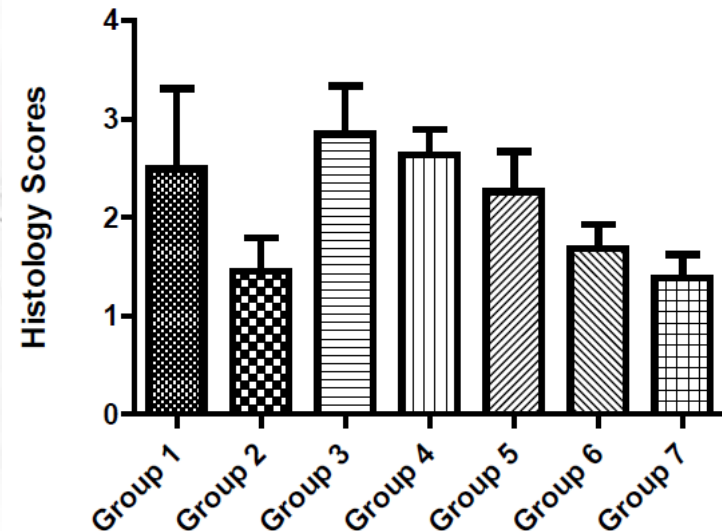
Hypertrophic scar formation in Rabbits

- Histopathology Scores

Inflammation



Collagen Formation

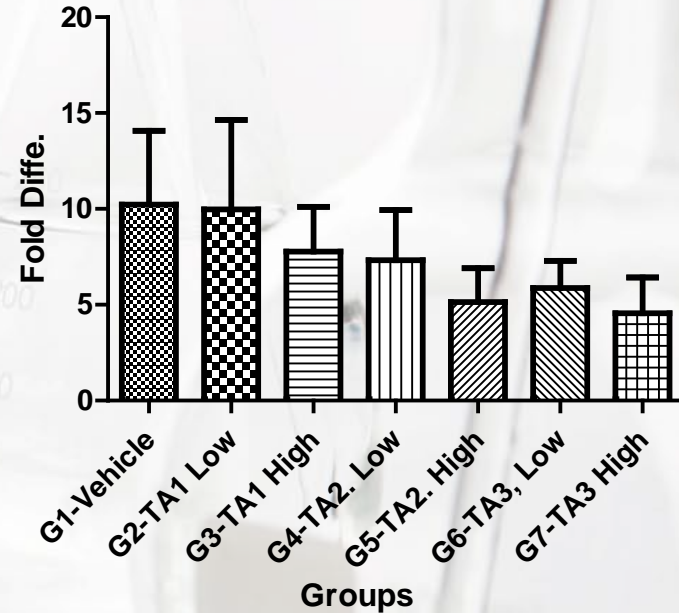


Hypertrophic scar formation in Rabbits

- qPCR – gene of interest expression

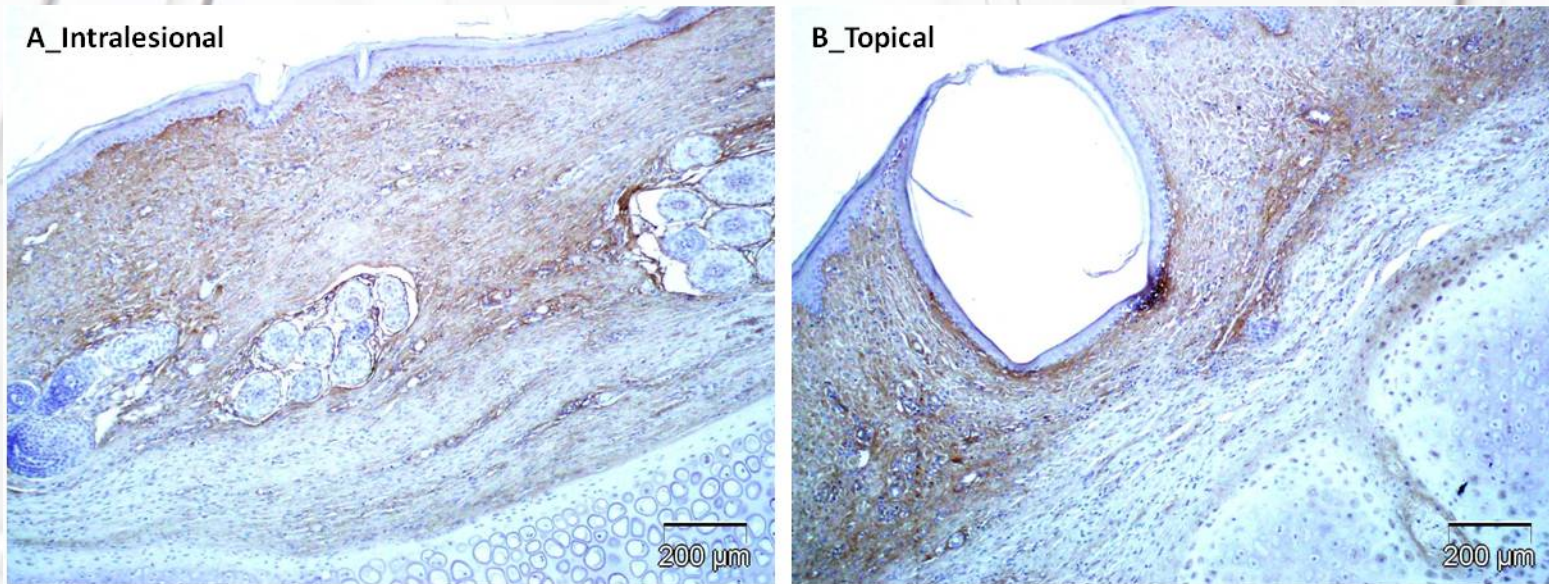
Please note:

- High gene expression in vehicle & TA 1 correlates with lack of efficacy.
- Low gene expression in TA 3 correlates with efficacy seen.



Hypertrophic scar formation in Rabbits

- IHC



Immunohistochemical detection of Periostin in Hypertrophic Scar. The testarticle was applied intralesional (A) or topical (B). Periostin leads to altered regeneration through TGF-Beta Signaling.



Service and Quality

- ***Thoroughness in planning and execution is key to a successful study.*** All protocols are vetted and approved by multiple personnel. Our QAU has a rigorous training program. All non-GLP studies are conducted in the spirit of GLP.
- ***We believe in sound science.*** Our ratio of scientists to non-scientists is one of the highest in the industry. Every study director is a PhD-level scientist.
- ***We believe in communication.*** Timely responses to your inquiries and frequent updates on your study are mandatory.
- ***We welcome visitors.*** You are always welcome at CBI to meet the staff, tour the laboratory and discuss the progress and results of your study.

