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#petfoodforum

Bioavailability and effects of collagen hydrolysates in canine osteoarthritis

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sonac by Darling Ingredients

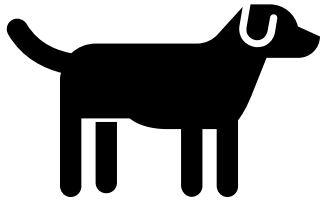
Utrecht University

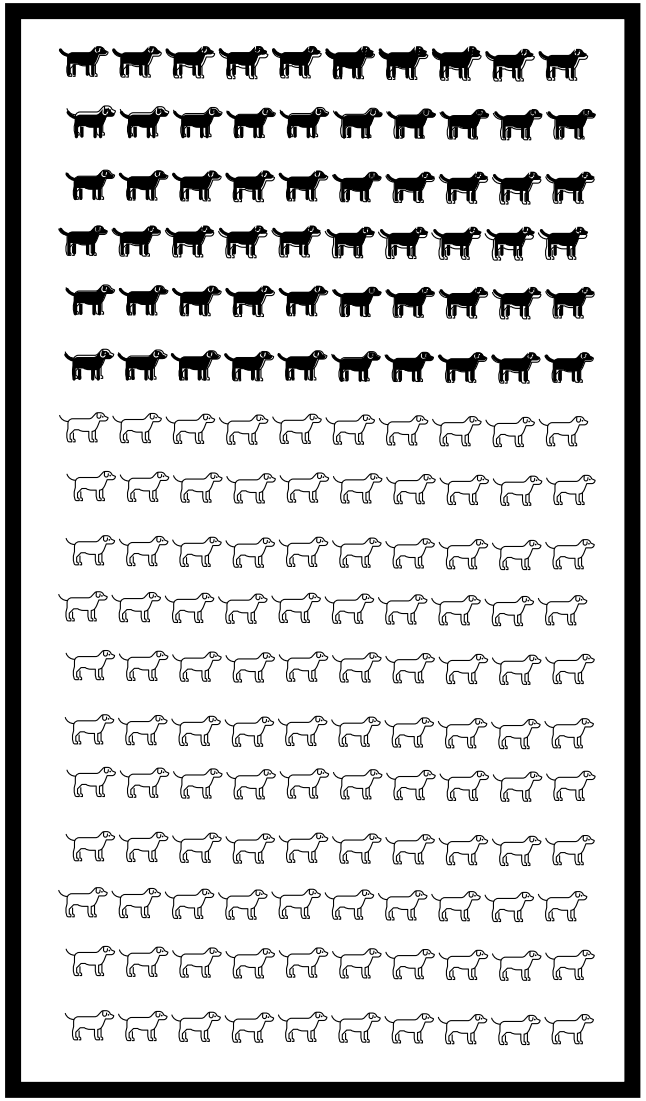
April 28-30, 2025, Kansas City, Missouri, USA

Osteoarthritis

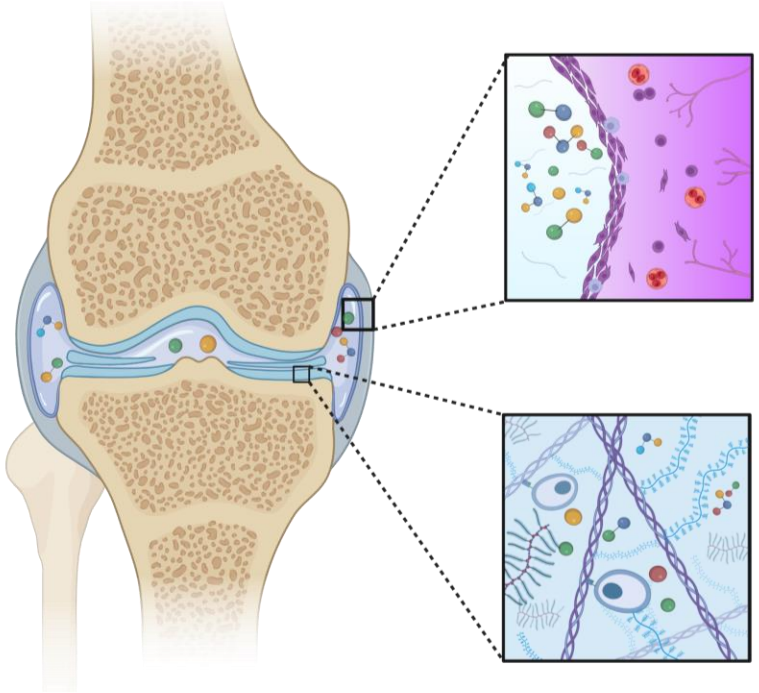
Osteoarthritis…

Osteoarthritis…

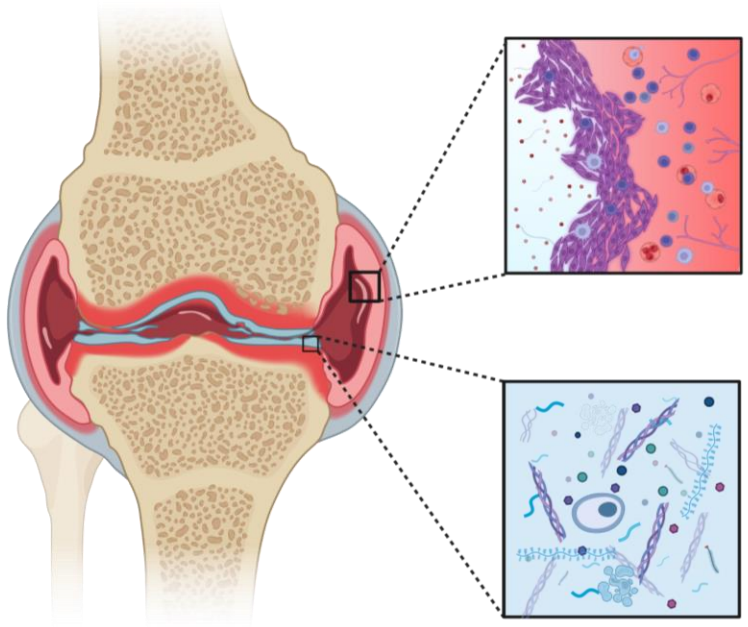




An incurable disease



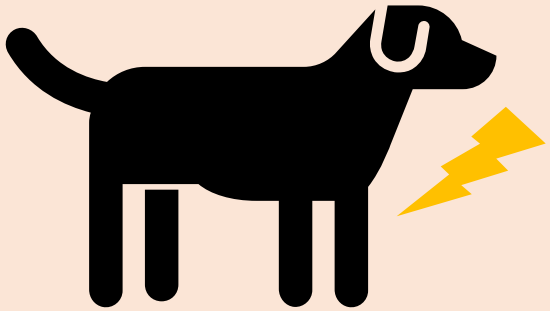
Healthy joint

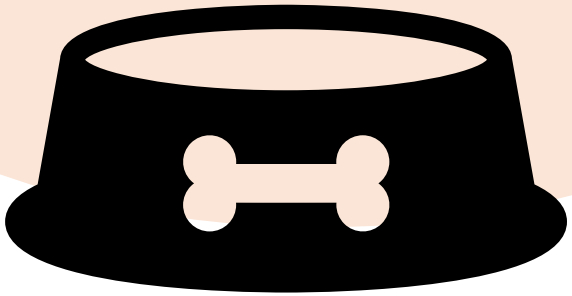


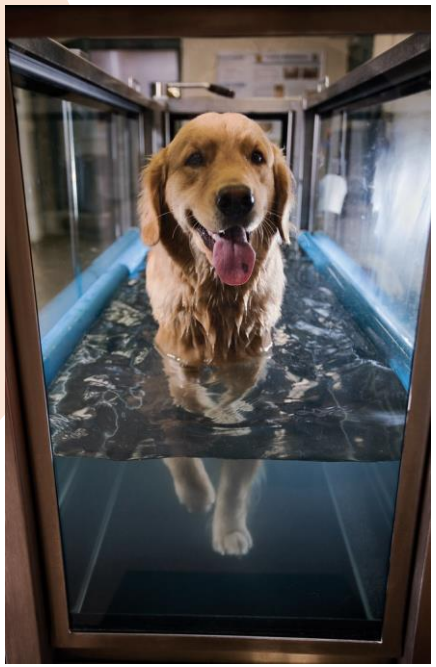
Osteoarthritis

Made with Biorender

Multimodal support







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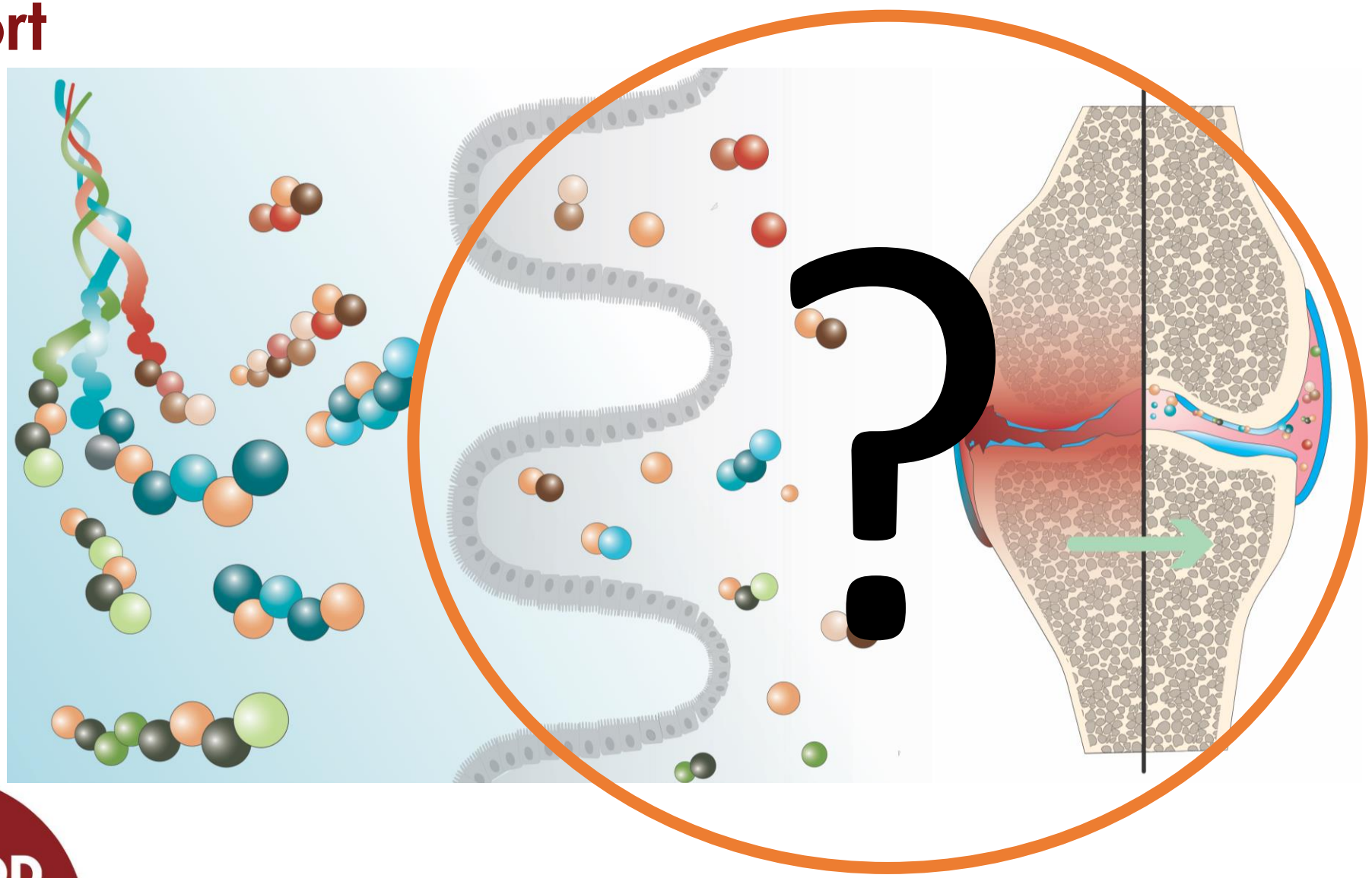
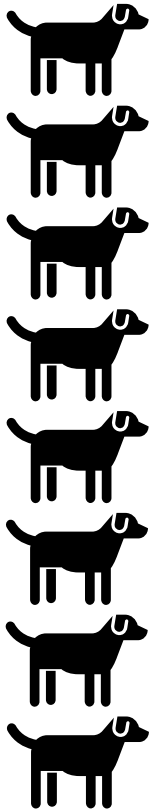
Collagen hydrolysates have potential for joint support



SCAN ME

Blees et al., 2024

Assessing bioavailability



Diet x 750 x 250 x 500

250 x 750 x Diet x 500

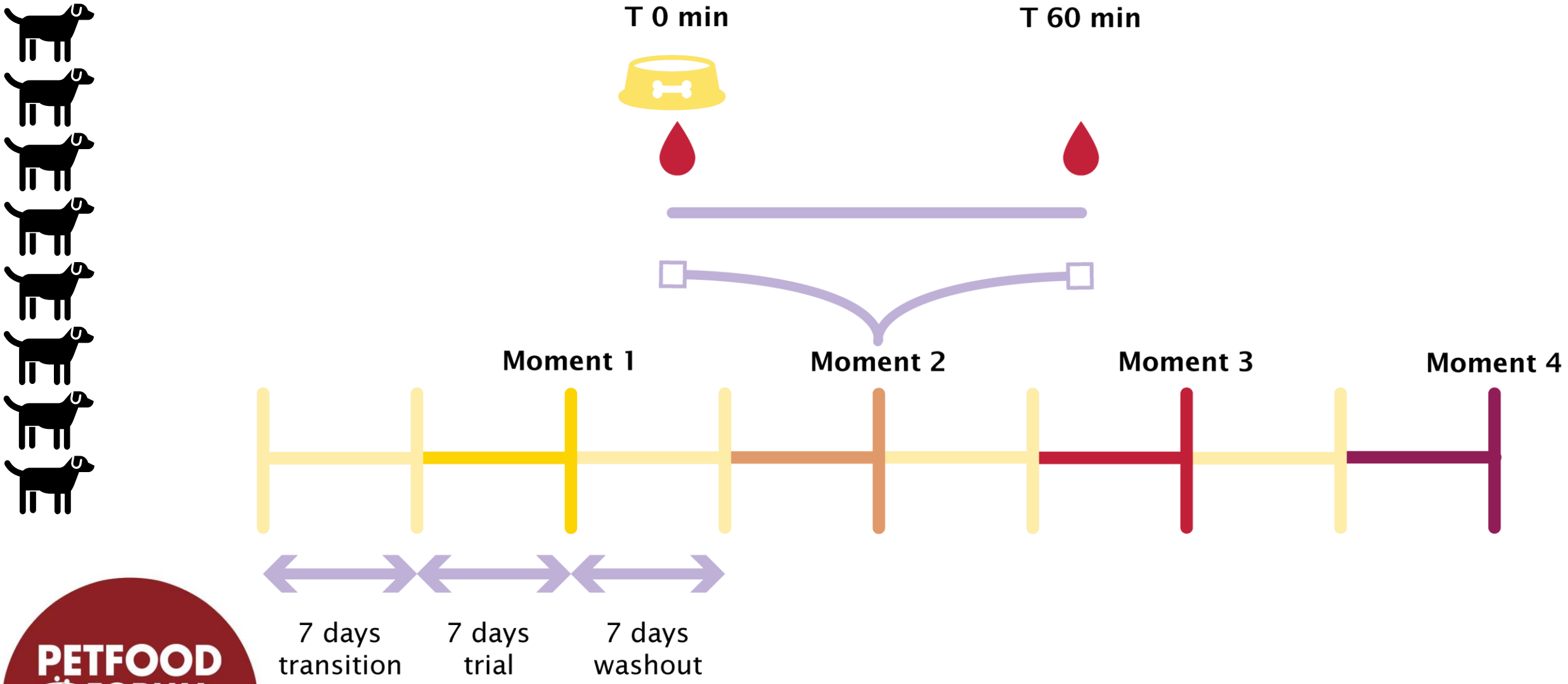
750 x 250 x 500 x Diet

… x… x… x…

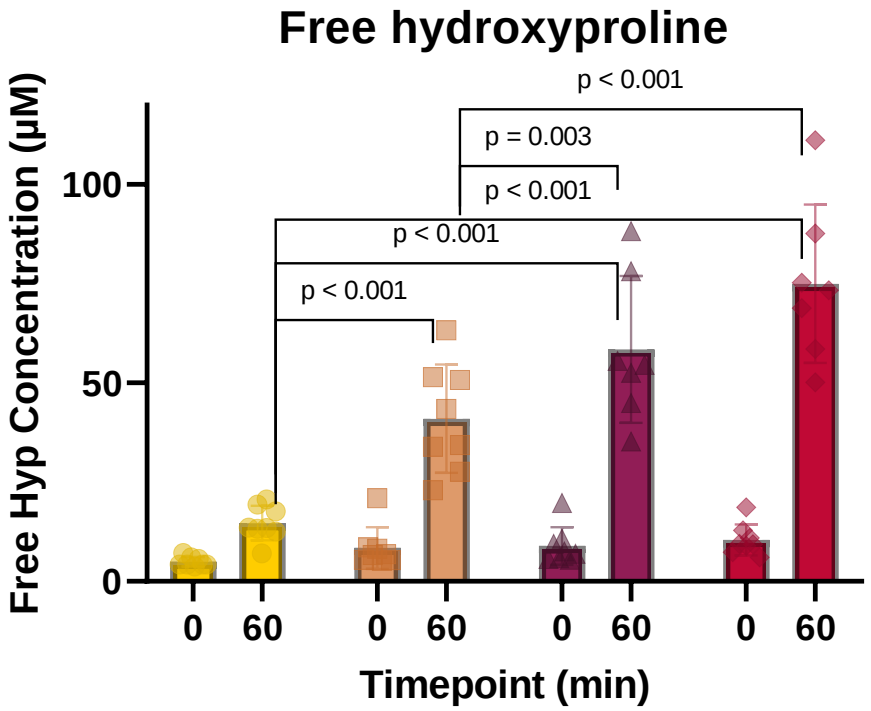
…

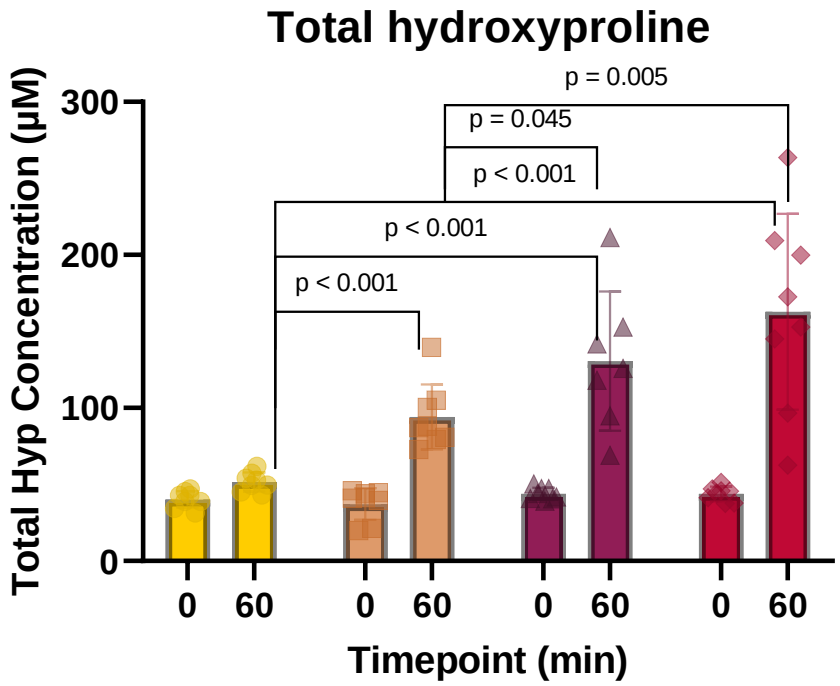
Blees et al., 2024

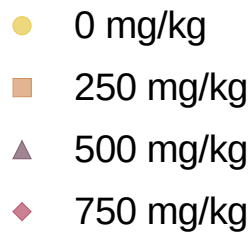
Assessing bioavailability



Assessing Bioavailability







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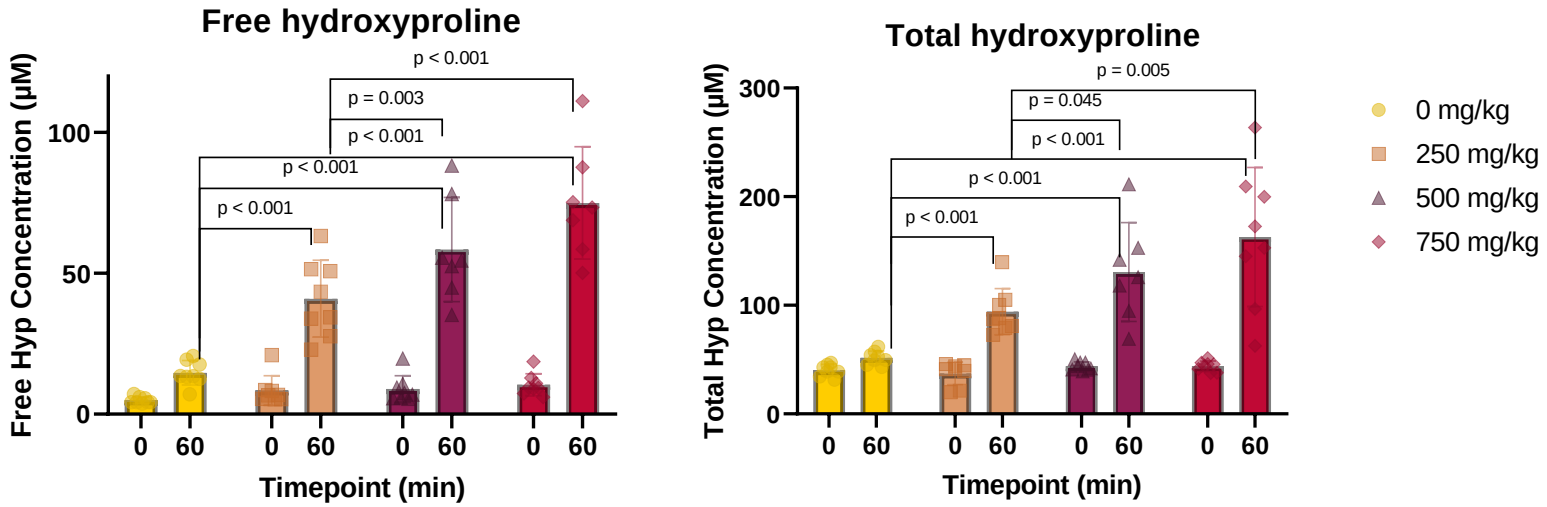
Assessing Bioavailability



All doses higher than control at T60

No cumulative effect on baseline

No difference between 500-750 mg/kg

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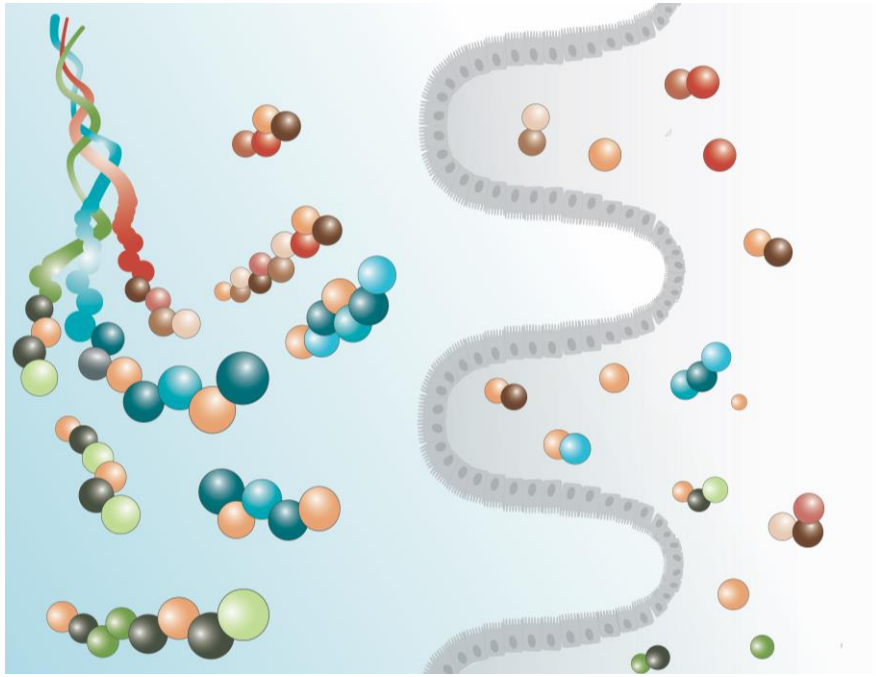
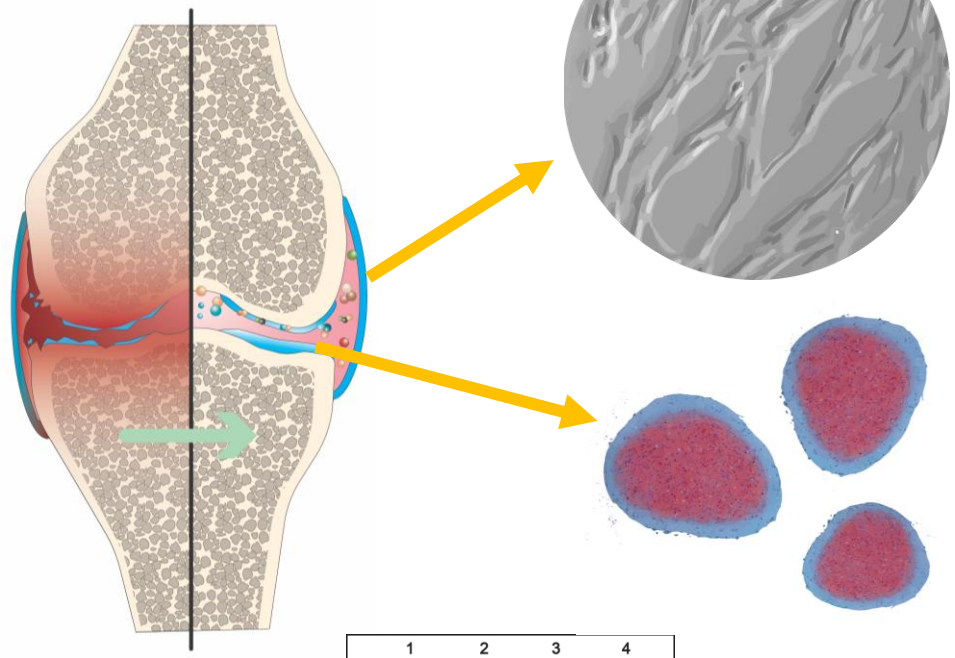
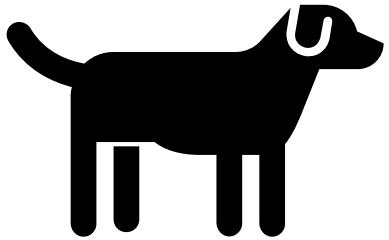
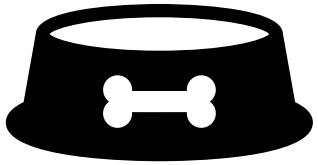
From *in vivo* to *in vitro*

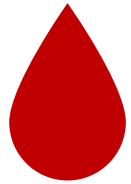


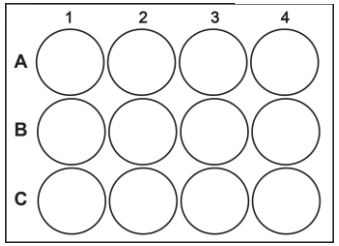






0 mg/kg
250 mg/kg
500 mg/kg
750 mg/kg





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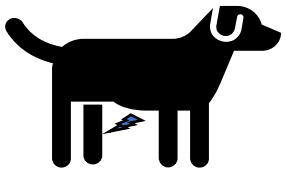
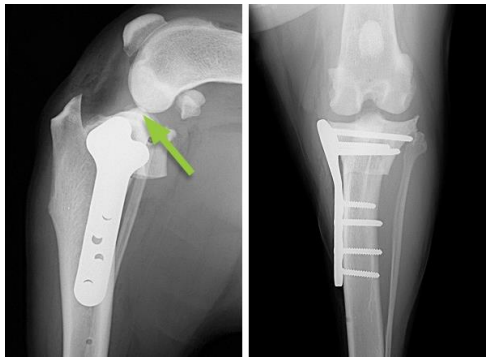
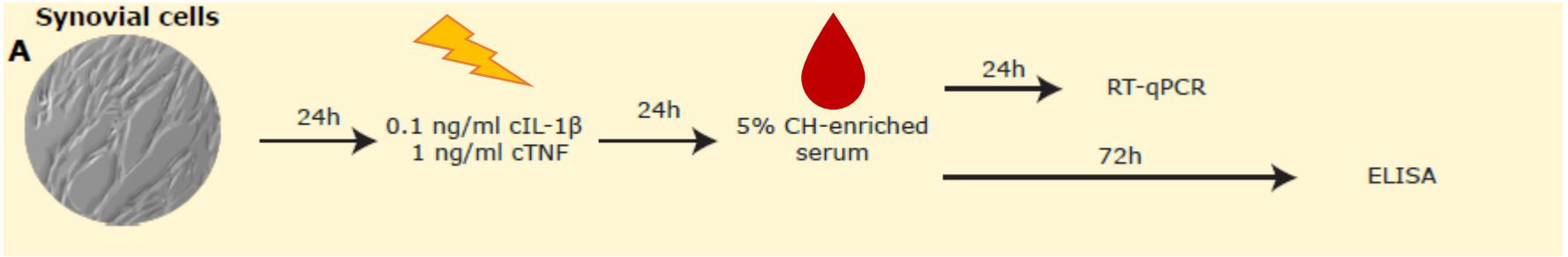
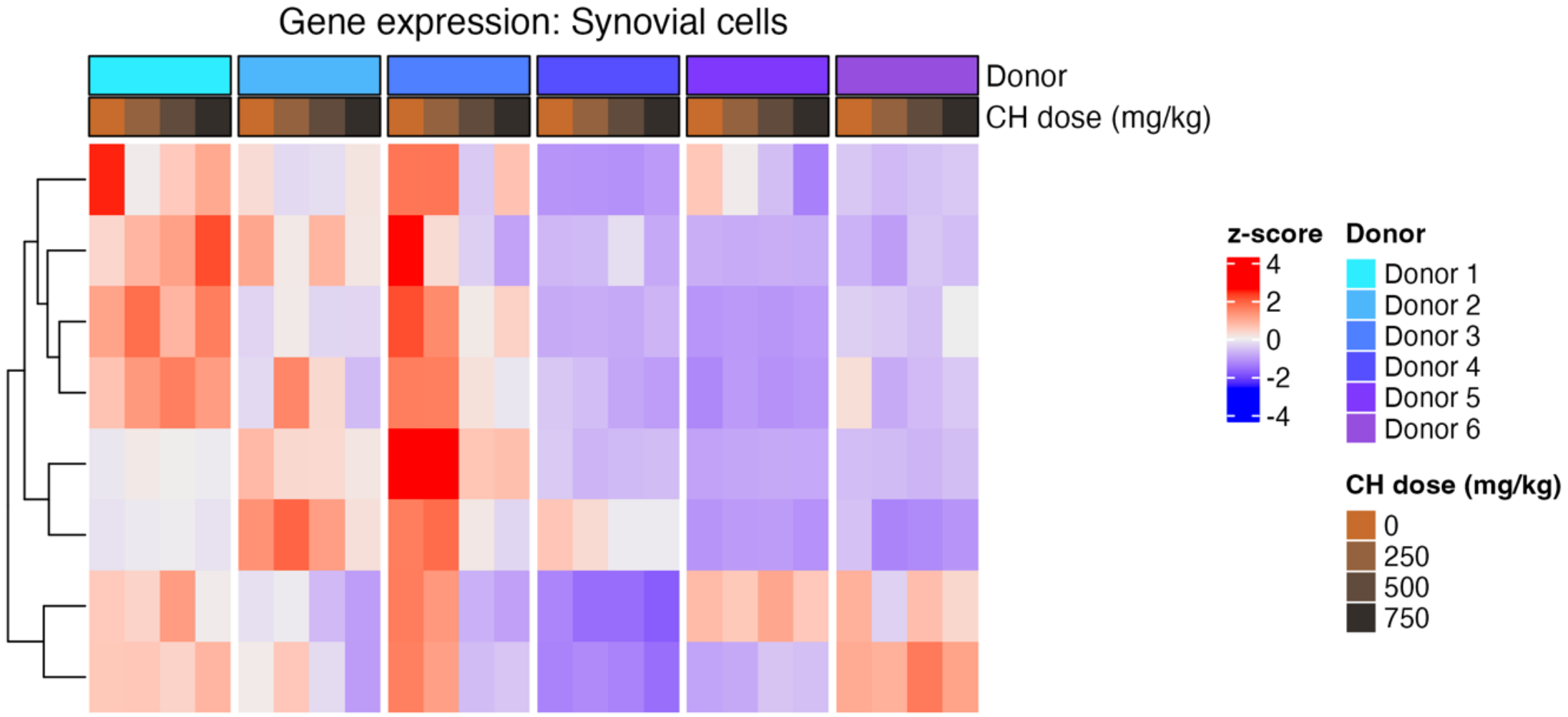
From *in vivo* to *in vitro*- Synovial cells







Synovial Cells



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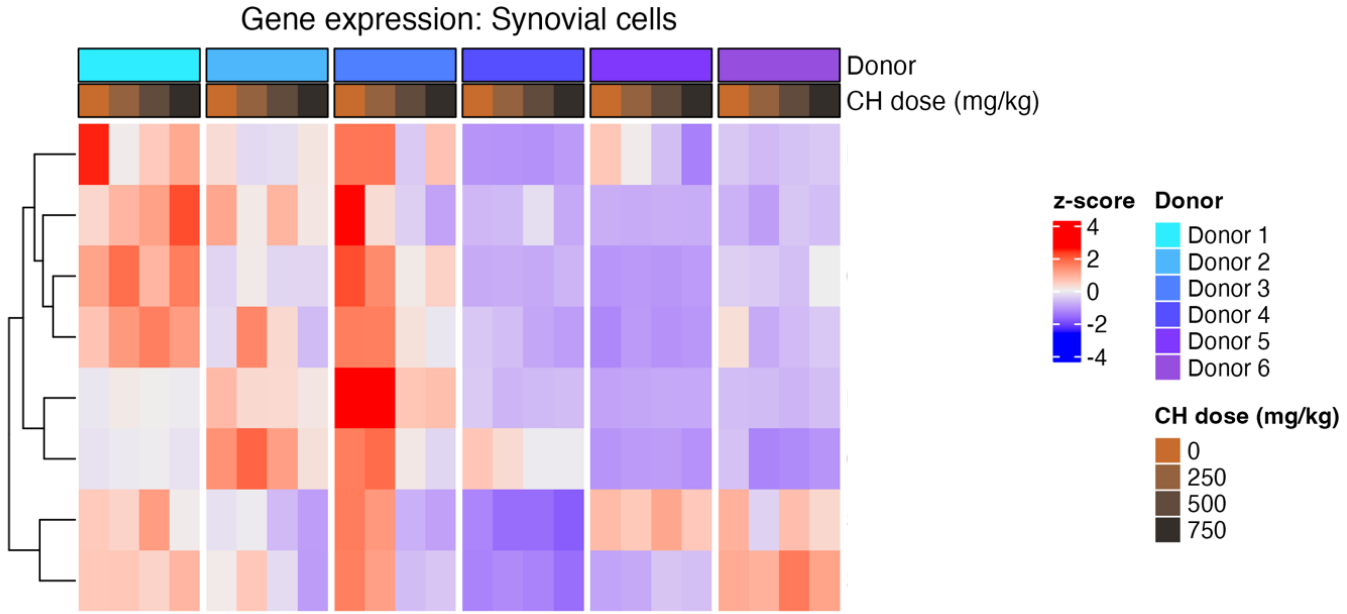
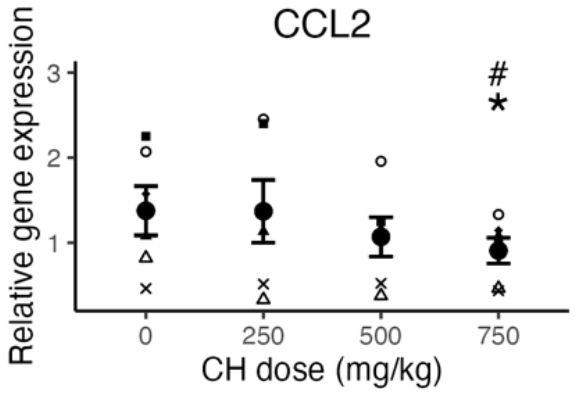
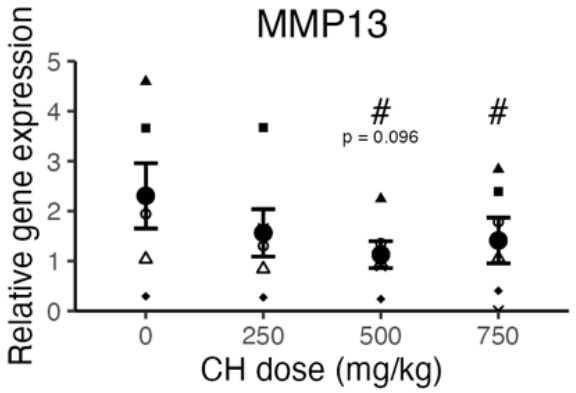
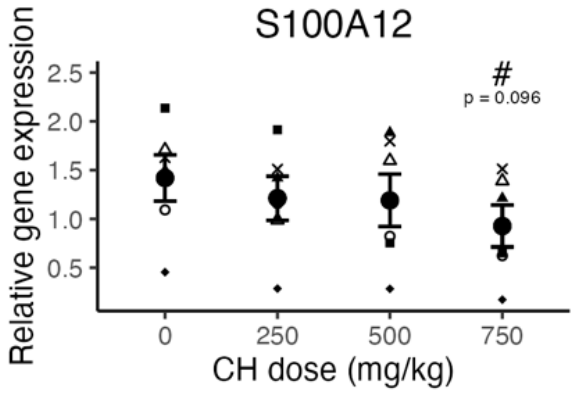
Synovial Cells









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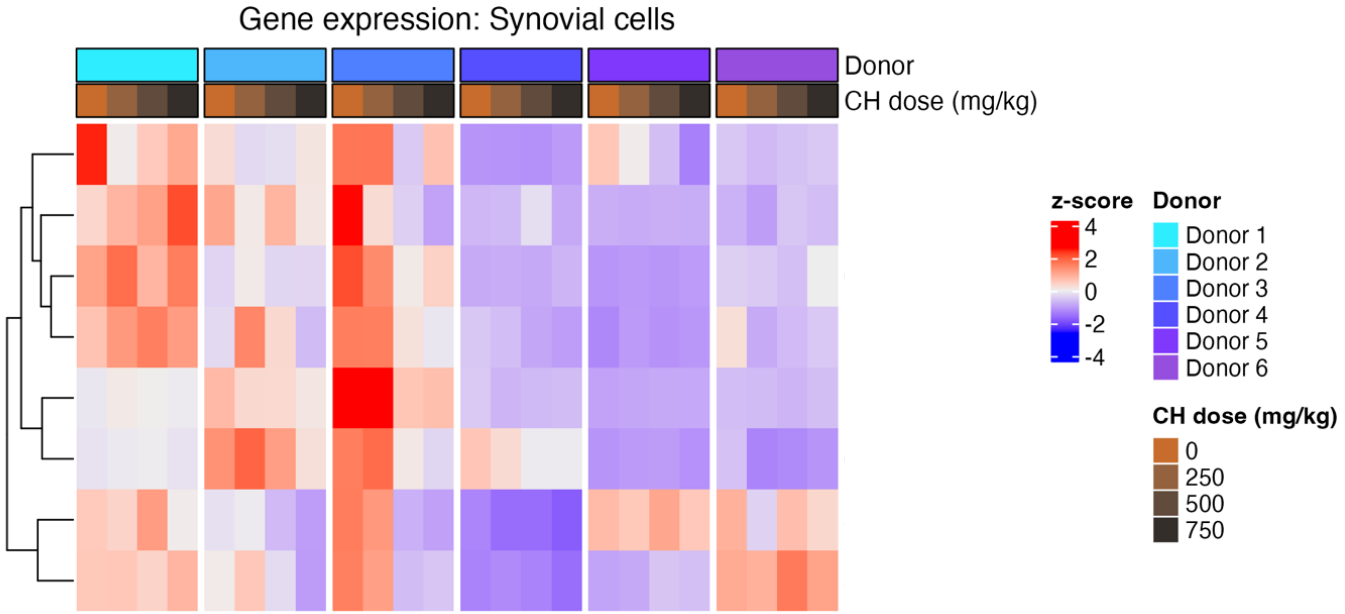
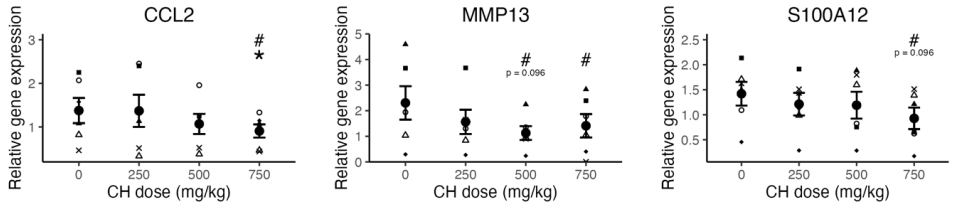
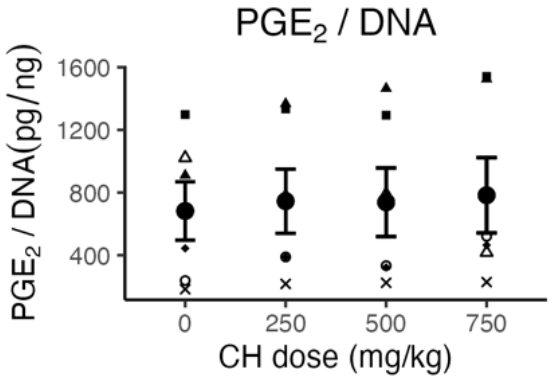
Synovial Cells

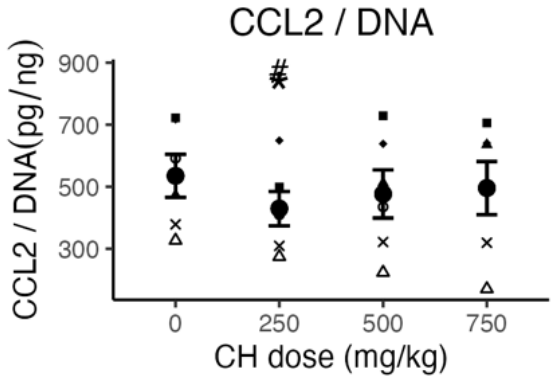
Mild anticatabolic effects

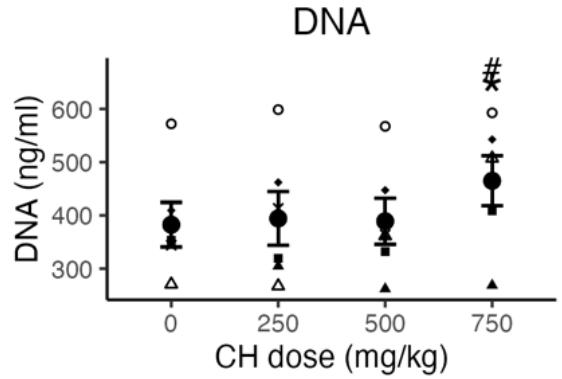
Heterogeneous, donor-dependent response











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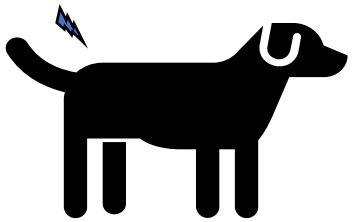
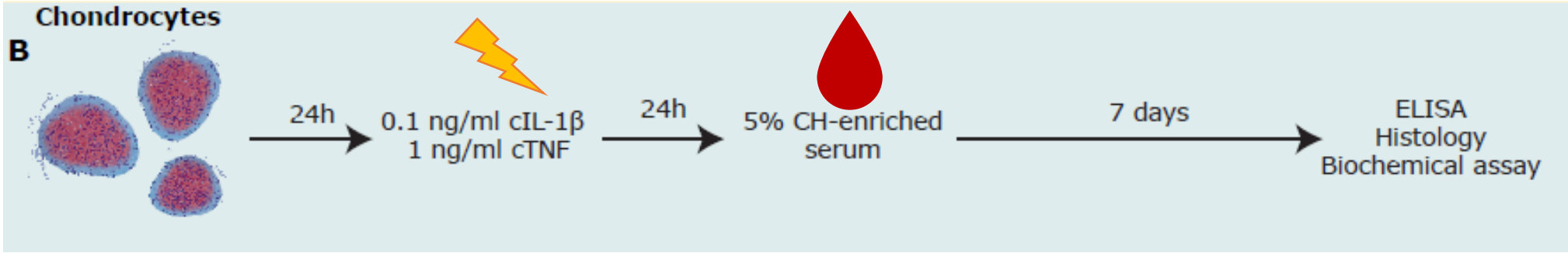
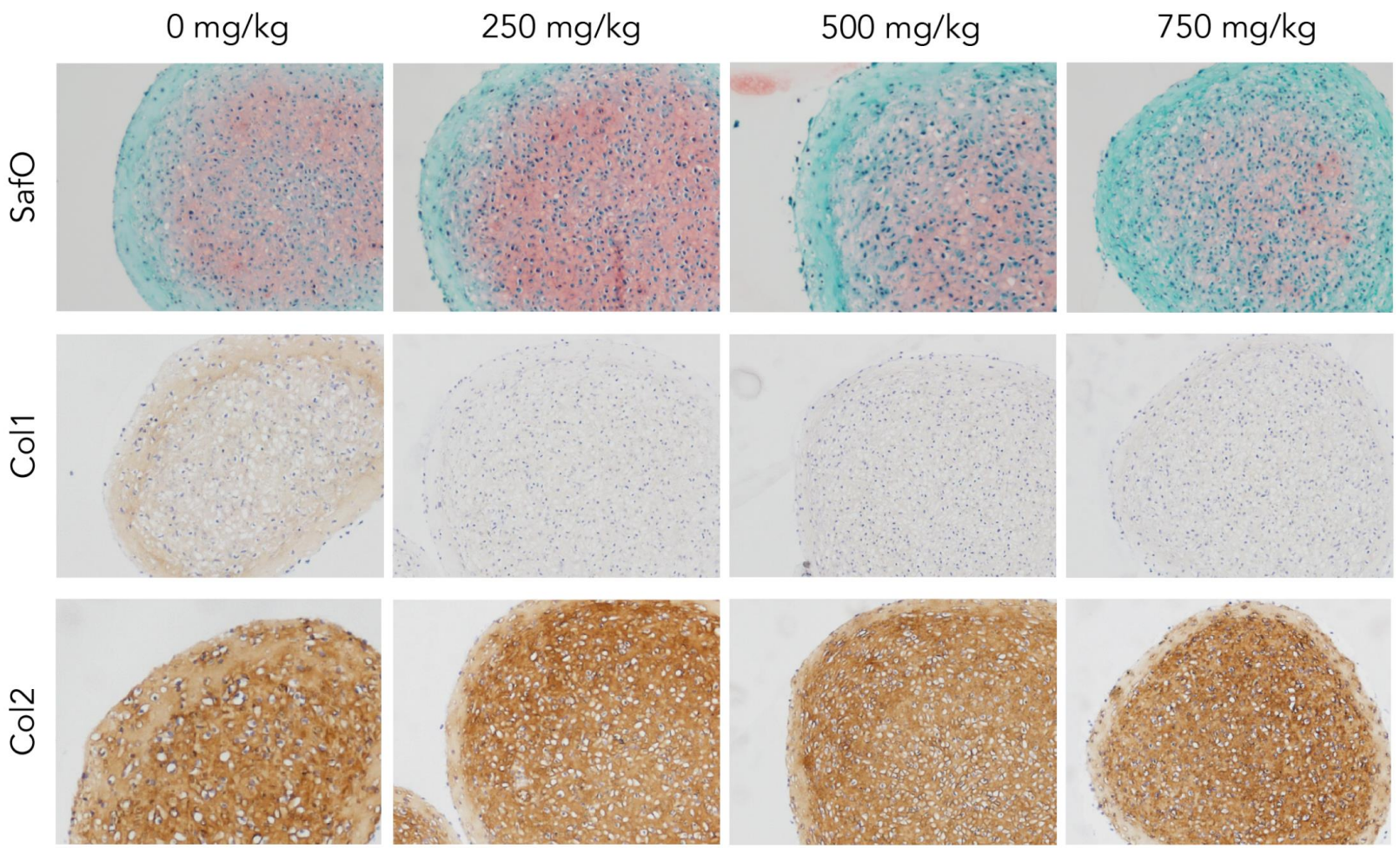
From *in vivo* to *in vitro*





Cartilage- from RNA to protein

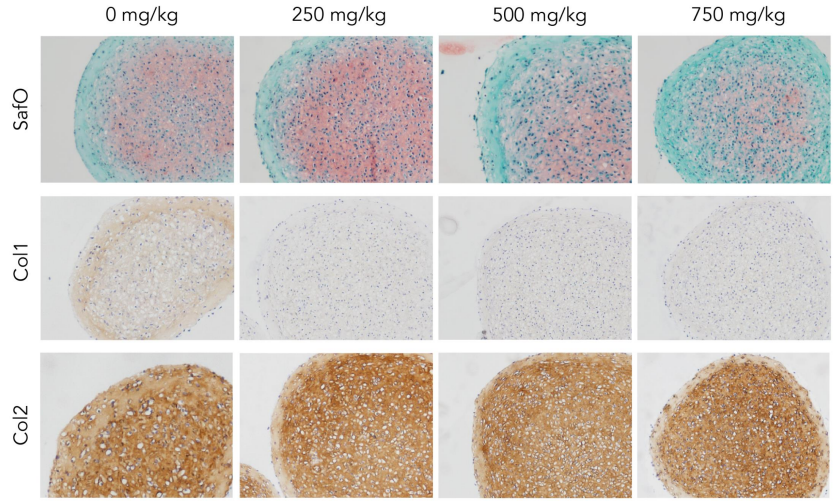
Anti-fibrotic?

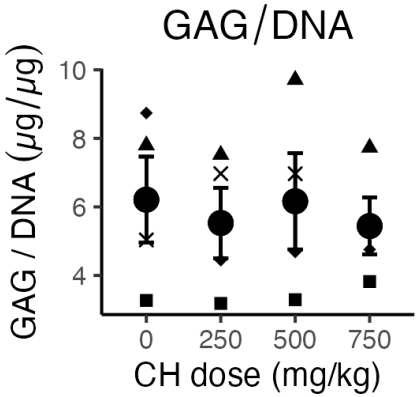


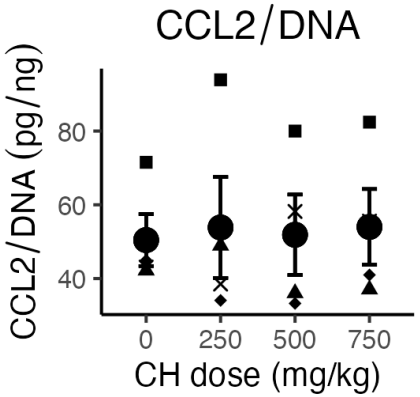
Cartilage- from RNA to protein

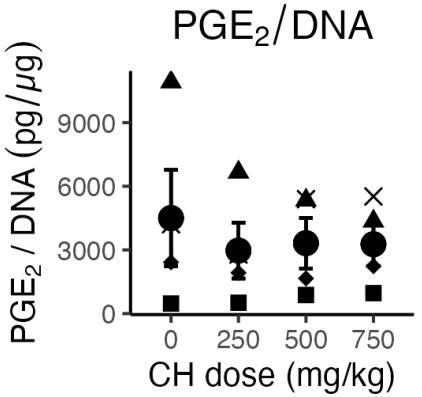
Anti-fibrotic?

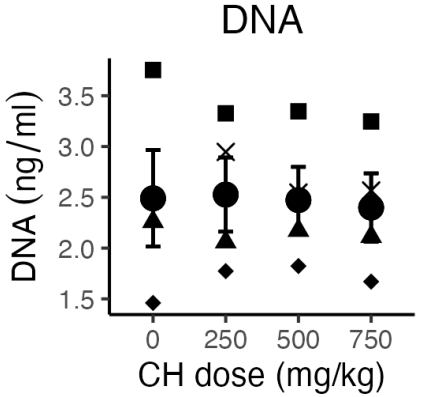
Again: Heterogeneous inter-donor response











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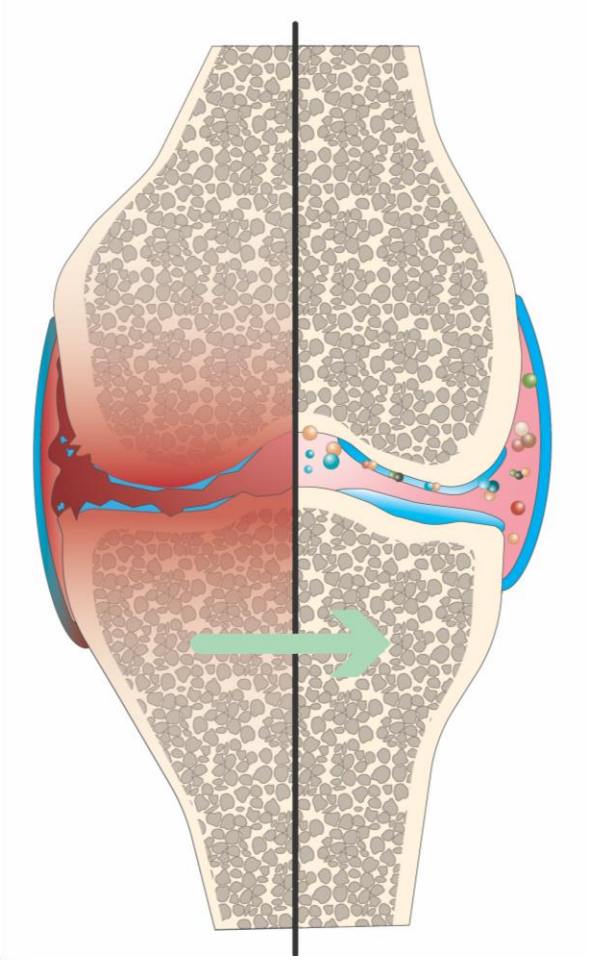
Conclusions



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CH is well-absorbed in dogs

Potential anti-catabolic and anti-fibrotic effects

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Conclusions

Utrecht University

Michelle Teunissen
Ronald Corbee
Marianna Tryfonidou

Sonac

Carine van Vuren
Esther Prevo-Keijbets

Thank you!

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