

Studies in humans/clinical trials with thiolated polymers (thiomers)

1. Hornof M., Weyenberg W., Ludwig A. and Bernkop-Schnürch A., Mucoadhesive ocular insert based on thiolated poly(acrylic acid): development and in vivo evaluation in humans. *J. Control. Release* (2003) 89(3):419-28. [https://doi.org/10.1016/s0168-3659\(03\)00135-4](https://doi.org/10.1016/s0168-3659(03)00135-4)
2. Safety and Tolerability of Chitosan-N-acetylcysteine Eye Drops in Healthy Young Volunteers (2009) NCT01015209 <https://clinicaltrials.gov/ct2/show/NCT01015209>
3. Assessment of Safety and Tolerability of Chitosan-N-acetylcysteine Eye Drops in Subjects While Wearing Contact Lenses and Before Insertion of Contact Lenses; (2011) NCT01747616 <https://clinicaltrials.gov/ct2/show/NCT01747616>
4. Local Tolerability of Chitosan-N-acetylcysteine Eye Drops in Healthy Young Volunteers (2011) NCT01278784 <https://clinicaltrials.gov/ct2/show/NCT01278784>
5. Hoeller S, Hornof M, Schmetterer L and Garhoefer G, Safety and tolerability of chitosan-N-acetylcysteine eye drops in healthy young volunteers. *Investig. Ophthalmol. Visual Sci.* 52 (2011) 3841. <https://iovs.arvojournals.org/article.aspx?articleid=2355988>
6. Safety of Hyaluronan Thiomer i.o. Implant During Combined Phacoemulsification - Non Penetrating Deep Sclerectomy Safety of Hyaluronan Thiomer i.o. Implant During Combined Phacoemulsification - Non Penetrating Deep Sclerectomy (2012) NCT01887873 <https://clinicaltrials.gov/ct2/show/NCT01887873>
7. Evaluation of the Corneal Residence Time of Chitosan-N-acetylcysteine Eye Drops in Patients With Dry Eye Syndrome After Single and Multiple Instillation (2012) NCT01753752 <https://clinicaltrials.gov/ct2/show/NCT01753752>
8. Efficacy and Safety of Crosslinked Hyaluronan Gel for Preventing Intrauterine Adhesion (2014) NCT02220621 <https://clinicaltrials.gov/ct2/show/NCT02220621>
9. Samprasit W, Kaomongkolgit R, Sukma M, Rojanarata T, Ngawhirunpat T, Opanasopit P. Mucoadhesive electrospun chitosan-based nanofibre mats for dental caries prevention. *Carbohydr Polym.* (2015) Mar 6;117:933-40. <https://doi.org/10.1016/j.carbpol.2014.10.026>
10. Kotry, GS, Farid, RM, Kassem, AA, Issa, DA., Clinical and Radiographic Assessment of the Adjunctive Intra-Pocket Application of Triple-Layer Mucoadhesive Metformin Film in Non-Surgical Management of Chronic Periodontitis. *IOSR J Dental Medical Sci*, 15 (2016) 94-100. <https://doi.org/10.9790/0853-15120194100>
11. Kassem AA, Issa DA, Kotry GS, Farid RM. Thiolated alginate-based multiple layer mucoadhesive films of metformin for intra-pocket local delivery: in vitro characterization and clinical assessment. *Drug Dev. Ind. Pharm.* (2017) Jan;43(1):120-131. <https://doi.org/10.1080/03639045.2016.1224895>
12. Schmidl D, Werkmeister R, Kaya S, Unterhuber A, Witkowska KJ, Baumgartner R, Höller S, O'Rourke M, Peterson W, Wolter A, Prinz M, Schmetterer L, Garhöfer G., A Controlled, Randomized Double-Blind Study to Evaluate the Safety and Efficacy of Chitosan-N-Acetylcysteine for the Treatment of Dry Eye Syndrome. *J. Ocul. Pharmacol. Ther.*, (2017) Jun;33(5):375-382. <https://doi.org/10.1089/jop.2016.0123>
13. Cagini C, Torroni G, Fiore T, Cerquaglia A, Lupidi M, Aragona and Iaccheri B. Tear film stability in Sjögren syndrome patients treated with hyaluronic acid versus crosslinked hyaluronic acid-based eye drops. *J. Ocul. Pharmacol. Ther.*, 33 (2017) 539-542. <https://doi.org/10.1089/jop.2016.0149>
14. The Efficacy of A New Crosslinked Hyaluronan Gel in Prevention of Intrauterine Adhesion (2017) NCT03353909 <https://clinicaltrials.gov/ct2/show/NCT03353909>

15. Lorenz K, Garhofer G, Hoeller S, Peterson W, Vielnascher RM, Schoenfeld, ZI, Prinz M. Long-term management of dry eye by once-daily use of Chitosan-N-Acetylcysteine (Lacrimera®) eye drops. *Journal of Clinical Ophthalmology*, 2 (2018) 47-54. <https://doi.org/10.35841/clinical-ophthalmology.2.1.47-54>
16. Durrie DS, Wolsey D, Thompson V, Assang C, Mann B, Wirostko B. Ability of a new crosslinked polymer ocular bandage gel to accelerate reepithelialization after photorefractive keratectomy. *J Cataract Refract Surg.* (2018) Mar;44(3):369-375. <https://doi.org/10.1016/j.jcrs.2018.01.018>
17. Ocular Bandage Gel (OBG) Pivotal Trial in Patients Undergoing Photorefractive Keratectomy ("PRK") (2018) NCT03938883 <https://clinicaltrials.gov/ct2/show/NCT03938883>
18. Messina M, Dua HS, Early results on the use of chitosan-N-acetylcysteine (Lacrimera®) in the management of dry eye disease of varied etiology. *Int Ophthalmol.* 2019, 39(3):693-696. <https://doi.org/10.1007/s10792-018-0843-0>
19. Nepp J, Knoetzi W, Prinz A, Hoeller S, Prinz M. Management of moderate-to-severe dry eye disease using chitosan-N-acetylcysteine (Lacrimera®) eye drops: a retrospective case series. *Int Ophthalmol.* 2020 Jun;40(6):1547-1552. <https://doi.org/10.1007/s10792-020-01324-5>
20. Effect of Chitosan-N-Acetylcysteine on IOL-power Prior to Cataract Surgery (2021) NCT05049629 <https://clinicaltrials.gov/ct2/show/NCT05049629>
21. Effect of Chitosan-N-acetylcysteine on Subjective Pain Sensation in Corneal Abrasion (2021) NCT05049642 <https://clinicaltrials.gov/ct2/show/NCT05049642>
22. Protection of Corneal Epithelium Using Chitosan-N-acetylcysteine Eye Drops During and/or After Cataract Surgery (2021) NCT05064189 <https://www.clinicaltrials.gov/ct2/show/NCT05064189>
23. Chen H, Xiong W, Zeng Y, Du H, Ye L, Chen L, Chen J, Liu Y, Gong M, Dong X, Liu J, Tan X. Efficacy and safety of auto-cross-linked hyaluronic gel to prevent intrauterine adhesion after hysteroscopic electrosurgical resection: a multi-center randomized controlled trial. *Ann Transl Med.* 2022, 10(22):1217. <https://doi.org/10.21037/atm-22-4988>
24. A Study of the KIO-201 (Ocular Bandage Gel) for Improving Persistent Corneal Epithelial Defects (2022) NCT05436288 <https://clinicaltrials.gov/ct2/show/NCT05436288>
25. The Efficacy and Safety of a New Cross-linked Hyaluronan Gel to Prevent Adhesion After Ultrasound-guided Manual Vacuum Aspiration (USG-MVA): A Prospective Randomized Controlled Trial (2022) NCT05360186 <https://clinicaltrials.gov/ct2/show/NCT05360186>