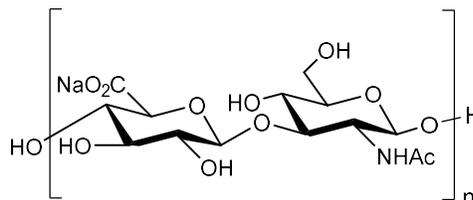


Sodium Hyaluronate for research use only

CAS # 9067-32-7

Catalog Number	MW*
H-0025	10-25 kDa
H-0050	50 kDa
H-0100	100 kDa
H-0250	250 kDa
H-0500	500 kDa
H-0800	800 kDa
H-1000	1,000 kDa
H-1500	1,500 kDa
H-2000	2,000 kDa
H-3000	3,000 kDa



*The lot specific average molecular weight will be reported on the certificate of analysis.

Storage and Handling: Store solid Sodium Hyaluronate at +5°C, protected from light and humidity. Solutions of Sodium Hyaluronate should be stored frozen at -20°C or below.

Origin: Sodium Hyaluronate is produced at HTL Biotechnology by fermentation with a *Streptococcus equi* natural strain (Group C of the *Lancefield Classification / Non GMO / Without any starting material from animal origin*). HTL's proprietary process allows the production of Sodium Hyaluronate fiber with an exceptionally low level of impurities. HTL Sodium Hyaluronate raw material is a medical grade pharmaceutical product manufactured under cGMP conditions and is covered by a Certificate of Suitability of Monographs of the European Pharmacopoeia (CEP) and Drug Master File (DMF). HTL cGMP Sodium Hyaluronate is aliquoted and distributed by Echelon for research use only.

Background: Sodium hyaluronate is the sodium salt of hyaluronic acid (HA), a glycosaminoglycan consisting of D-glucuronic acid and N-acetyl-D-glucosamine disaccharide units. HA is one of several glycosaminoglycan components of the extracellular matrix of connective tissue. HA is a naturally occurring biopolymer involved in numerous biological processes including tissue hydration and structural scaffolding. HA is increasingly used and investigated in medical, pharmaceutical and bioengineering applications (for example in hydrogels for use in aesthetics, ophthalmology, rheumatology, urology, wound healing, 3D bioprinting, etc.).

About HTL: HTL is the world leader in the production of pharmaceutical grade Sodium Hyaluronate by fermentation.
www.htlbiotech.com

Featured Publications:

- 1) M.A. Serban, A. Skardal (2018) "Hyaluronan chemistries for three-dimensional matrix applications" *Matrix Biology*, 78-79, 337-3454. doi: 10.1016/j.matbio.2018.02.010.
- 2) C.B. Highley, G.D. Prestwich GD, Burdick JA. (2016) "Recent advances in hyaluronic acid hydrogels for biomedical applications." *Curr Opin Biotechnol.* 40, 35-40. doi: 10.1016/j.copbio.2016.02.008.
- 3) J.A. Burdick, G.D. Prestwich (2011) "Hyaluronic acid hydrogels for biomedical applications." *Adv Mater.* 23, H41-56. doi: 10.1002/adma.201003963.
- 4) A. Doderio, R. Williams, *et al.* (2019) "A micro-rheological and rheological study of biopolymers solutions: Hyaluronic acid" *Carbohydrate Polymers*, 203, 349-355, doi:10.1016/j.carbpol.2018.09.072.
- 5) P.A. Simmons, J.G. Vehige (2017) "Investigating the potential benefits of a new artificial tear formulation combining two polymers." *Clin Ophthalmol.* 11, 1637-1642. doi:10.2147/OPHTH.S135550.

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

Technical Data Sheet, Rev 1, 03-09-21 – For research use only. Not intended for diagnostic or therapeutic use.