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Product Information

Select-HA™ HiLadder
Size standard for polysaccharide electrophoresis

Catalog Number **S0701**
Storage Temperature –20 °C

TECHNICAL BULLETIN

Product Description

Hyaluronan (HA; hyaluronic acid) is a member of the glycosaminoglycan class of natural polysaccharides. Hyaluronan is a linear, unbranched polymer composed of alternating residues of β-D-(1→3) glucuronic acid (GlcA) and β-D-(1→4)-*N*-acetylglucosamine (GlcNAc). Unlike the other glycosaminoglycans, hyaluronan does not attach to proteins to form proteoglycans and it is not sulfated. Historically hyaluronan has been isolated from animal sources or extracted from bacteria, including strains of *Staphylococcus*.

Select-HA is hyaluronic acid prepared through enzymatic synthesis where a very high level of size control is possible.[1] Each Select-HA is a narrow-size distribution HA with a specific average molecular weight within a defined range. Polydispersity of Select-HA is as low as 1.02 (a value of 1 is for a 'perfect' polymer).

Select-HA HiLadder is a mixture of five Select-HA hyaluronans with a molecular mass range of ~500 kDa to ~1500 kDa (see **Figure 1**). The molecular mass of each Select-HA is determined by Multi-angle Laser Light Scattering-Size Exclusion chromatography (MALLS-SEC). Actual values for the bands of each lot of HiLadder are reported on the lot specific certificate of analysis.

Figure 1. Example of electrophoresis gel of Select-HA HiLadder. 5 µL of reconstituted HiLadder marker was separated on a 1.0% (w/v) agarose gel and stained using Stains-All.

Precautions and Disclaimer

This product is for laboratory use only. Not for drug, household, or other uses. Consult the MSDS for information regarding hazards and safe handling practices.

Preparation Instructions

One vial of Select-HA HiLadder contains ~25 µg total hyaluronan supplied as a mixture of lyophilized sodium salts. Centrifuge the tube for a few seconds to collect the solids in the bottom of the tube. Carefully open and add 100 µL of sterile water directly to the bottom of the tube. Allow two hours at 4°C for sample rehydration and then mix well before use.

A loading volume of 5 µL of reconstituted HiLadder is recommended for use on a 0.6-1.0% (w/v) agarose gel. After electrophoresis, stain the gel using a staining solution of 0.005-0.01% Stains-All, Catalog Number E9379, in 50% ethanol with overnight incubation and agitation.[2]

Each vial of Select-HA HiLadder is sufficient for 20 agarose gel lanes when using the above reconstitution and loading instructions.

Storage/Stability

The product ships ambient and storage at –20 °C is recommended.

After reconstitution, store aliquots at -20 °C. Avoid contamination with microbes or HA-degrading enzymes.

References

1. Jing, W., and DeAngelis, P.L., Synchronized chemoenzymatic synthesis of monodisperse hyaluronan polymers. *J. Biol. Chem*., **279**, 42345-9 (2004).
2. Lee, H.G., and Cowman, M.K., An agarose gel electrophoretic method for analysis of hyaluronan molecular weight distribution. *Anal. Biochem*., **219**, 278-87 (1994).

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