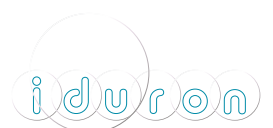


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Iduron technical bulletin - GAG Arrays

GAG selections for use with Iduron Heparin/GAG Binding Plate

For research use only. Not for use in humans.
Not for clinical, diagnostic or therapeutic applications.



Iduron technical bulletin - Iduron GAG Arrays

GAG Arrays; designed for use with Iduron's Heparin/GAG Binding Plates.

The following are suggestions for GAG arrays that may be of particular value for investigation of protein-GAG interactions using Iduron's Heparin/GAG Binding Plates.

- GAG Array
- Heparin Oligosaccharide Array
- Heparin/HS Compatibility Array
- Sulfated K5 Polysaccharide Array

a) GAG Array

This array can be used to gain information on the importance of the heparin and dermatan backbone structure and the position and density of sulphate groups for protein binding.

We recommend that the GAGs are adsorbed onto Heparin/GAG Binding Plates by setting up a dilution series from stock solutions of 50ug/ml and examining each dilution in triplicate. As an alternative to direct coating on the heparin binding plates GAG Arrays can be used as competitive inhibitors of protein binding to immobilised heparin or any other immobilised GAG species; see technical bulletin on Heparin/GAG Binding Plates for more information.

Glycosaminoglycan	Catalogue #	Web Page
*Heparin (IdoA, 2S α 1-GlcNS, 6S α 1-)	Hep001/100	Heparin/Low-In-Calcium Heparin
≠ 2-O-Desulphated Heparin	DSH001/2	Selectively Desulphated Heparins
≠ 6-O-Desulphated Heparin	DSH002/6	Selectively Desulphated Heparins
≠ N-Desulphated Heparin	DSH003/N	Selectively Desulphated Heparins
≠ N-Desulphated reN-Acetylated Heparin	DSH004/Ac	Selectively Desulphated Heparins
Dermatan Sulphate (pig mucosa) (-4 IdoA α 1-3GalNAc, 4S β 1-)	GAG-DS01	Glycosaminoglycans
Disulfated Dermatan Sulphate (Ascidian) (4 IdoA, 2S α 1-3GalNAc, 6S β 1-)	M001	Marine GAGs
Disulfated Dermatan Sulphate (Ascidian) (4 IdoA, 2S α 1-3GalNAc, 4S β 1-)	M002	Marine GAGs

*Substrate for endosulfatases (sulfs).

≠ Potential applications substrates as sulfotransferase enzymes.

More details on the structures of the items in the GAG Array are given on our website; www.iduron.co.uk.

b) Heparin Oligosaccharide Array

This array could be used to determine the length of oligosaccharide required for optimum binding to a protein of interest. If the intention is to study protein-protein interactions (for example the interaction of a growth factor with its receptor) a longer heparin oligosaccharide chain may be required than that needed for the binding of an individual protein. This could arise if the heparin sequence acts as a template for binding growth factor and receptor in close proximity.

Glycosaminoglycan	Catalogue No.	Web Page
Heparin Oligosaccharide	H004 - H030	Heparin Oligosaccharides

30% discount available as a standard discount for five or more oligosaccharides.

NB: only oligosaccharides down to deca-saccharide (dp10) have been evaluated for binding to the Heparin/GAG Binding Plate.

c) Heparin/HS Compatibility Array

This array can be used to find which of Iduron's naturally-occurring heparins and heparan sulphates (HS) is most effective at binding proteins of interest. High sulfation per se may not always be the major factor. The biological activity and/or antigenic properties of a protein may be selectively enhanced by specific GAG species.

Glycosaminoglycan	Catalogue No.	Web page
Heparin - high grade	HEP001/100	Heparin/Low-In-Calcium
Low in Calcium Heparin - high	LCaHEP002/100	Heparin/Low-In-Calcium
Heparin (mol wt >9000 Daltons)	H030	Heparin/Low-In-Calcium
Ascidian Heparin (low sulfated heparin)	M003	Marine GAGs
Crustacean Heparin (low sulfated heparin)	GM03/1	Marine GAGs
Heparan Sulfate (low and high sulfated HS)	GAG-HS01	Glycosaminoglycans
Scallop Heparan Sulfate (low sulfated HS)	GM01/1	Marine GAGs
Whelk Heparan Sulfate (low sulfated HS)	GM02/1	Marine GAGs

Details of the molecular structure of the listed heparins and heparan sulfates can be found on our website; www.info@iduron.co.uk.



d) Sulfated K5 Polysaccharide Arrays:

Select a combination from 12 unique chemical analogues of heparin and heparan sulfate.

Glycosaminoglycan	Catalogue No	Web page
K5 Polysaccharide	K5001 – K5012	K5 Polysaccharide

The K5 Polysaccharides are a distinctive set of GAGs that contain novel sulphation motifs on N-acetylated or N-sulphated backbones. They offer exciting prospects for refining knowledge of the molecular basis of GAG-protein recognition and for discovering new activating or antantonic sequences for growth factors, chemokines and many other proteins that are regulated by HS or heparin. Structurally the range of sulphated (and partially epimerised) K5 polysaccharides show some correspondence with the intermediates formed during biosynthesis of HS and heparin and they could be valuable for studies on sulfotransferases and endosulfatases involved in the biosynthesis and selective desulphation of heparin and HS.

A separate Technical Bulletin has been prepared on our range of Sulphated K5 Polysaccharides. Please enquire at info@iduron.co.uk or download from our website.

