

This article was downloaded by:

On: 27 January 2011

Access details: *Access Details: Free Access*

Publisher *Taylor & Francis*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Nucleosides, Nucleotides and Nucleic Acids

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713597286>

The Synthesis and Antiherpetic Activity of DHBG and Some Analogs

Karin Eklind^a; Roelf Datema^a; Ann-Christin Ericson^a; Curt-Eric Hagberg^a; Nils-Gunnar Johansson^a; Susanna Kovacs^a; Alf Larsson^a; BjÖRn Lindborg^a; GÖRan Stening^a; Bo öberg^a

^a Department of Antiviral Chemotherapy, Research and Development Laboratories, Södertälje, Sweden

To cite this Article Eklind, Karin , Datema, Roelf , Ericson, Ann-Christin , Hagberg, Curt-Eric , Johansson, Nils-Gunnar , Kovacs, Susanna , Larsson, Alf , Lindborg, BjÖRn , Stening, GÖRan and öberg, Bo(1985) 'The Synthesis and Antiherpetic Activity of DHBG and Some Analogs', *Nucleosides, Nucleotides and Nucleic Acids*, 4: 1, 303

To link to this Article: DOI: 10.1080/07328318508077900

URL: <http://dx.doi.org/10.1080/07328318508077900>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

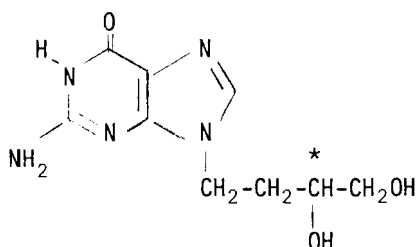
THE SYNTHESIS AND ANTIHERPETIC ACTIVITY OF DHBG AND SOME ANALOGS

Karin Eklind*, Roelf Datema, Ann-Christin Ericson,
Curt-Eric Hagberg, Nils-Gunnar Johansson, Susanna Kovacs,
Alf Larsson, Björn Lindborg, Göran Stening, and Bo Öberg.
Department of Antiviral Chemotherapy, Research and Development
Laboratories, Astra Läkemedel AB, Södertälje, Sweden.

Summary. Several acyclic guanosine analogs have been synthesized and tested for antiviral activity.

The synthesis involves a reaction under basic conditions between 2-amino-6-chloropurine and ω -halo alkyl derivatives. Subsequent separation of the 7 and 9 isomers and hydrolysis gave the actual compounds.

R(+) 9-(3,4-dihydroxybutyl)guanine is a potent inhibitor of Herpes virus type 1 and 2 multiplication.



R(+) DHBG requires HSV thymidine kinase (TK) for activation. It has a good affinity for HSV-1 TK ($K_i = 1.5$) and for HSV-2 TK ($K_i = 5.7$) and a phosphorylation rate relative to thymidine of 0.73 and 1.65, respectively.

R(+) DHBG has a very good antiherpetic effect against systemic HSV-1 and HSV-2 infection in mice, despite moderate ED_{50} values in the plaque reduction assay (2 μ M and 8 μ M, respectively).