## Accepted Manuscript

Ionotropin is the mammalian digoxin-like material (DLM). It is a phosphocholine ester of a steroid with 23 carbon atoms.

Fred Chasalow, Lori Pierce-Cohen

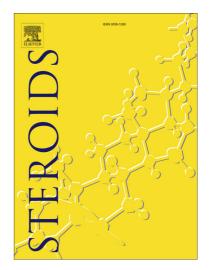
PII: S0039-128X(18)30046-1

DOI: https://doi.org/10.1016/j.steroids.2018.03.001

Reference: STE 8238

To appear in: Steroids

Received Date: 25 December 2017
Revised Date: 6 February 2018
Accepted Date: 1 March 2018



Please cite this article as: Chasalow, F., Pierce-Cohen, L., Ionotropin is the mammalian digoxin-like material (DLM). It is a phosphocholine ester of a steroid with 23 carbon atoms., *Steroids* (2018), doi: https://doi.org/10.1016/j.steroids.2018.03.001

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## **ACCEPTED MANUSCRIPT**

**Title**: Ionotropin is the mammalian digoxin-like material (DLM). It is a phosphocholine ester of a steroid with 23 carbon atoms.

Authors: Fred Chasalow <sup>1\*</sup>, Lori Pierce-Cohen <sup>1</sup>

<sup>1</sup> IOMA LLC, Belmont, CA, USA

\*Corresponding Author: Fred Chasalow, Ph.D.

2523 Hastings Drive

Belmont, CA 94002

Email: fchasalow@gmail.com

Running title: Ionotropin is the DLM

#### **Abstract**

We describe a novel steroid, which we have named "Ionotropin." Its unique features are: [1] it has 23 carbon atoms and [2] it is a phosphocholine ester. There are no other known mammalian steroids with either structural feature. Ionotropin cross reacts with digoxin-specific antibodies and may be the long-sought, endogenous, mammalian digoxin-like material (DLM). Using LC-MS, we identified three other phosphocholine steroids in serum. Two of these steroids also cross-react with digoxin specific antibodies.

In adrenal extracts, we found both phosphocholine esters and corresponding phosphoethanolamine steroid esters. There are no other known phosphoethanolamine steroid esters. Together, these 8 compounds define a biosynthetic pathway from 7-dehydropregnenolone to Ionotropin. Ionotropin may be the only steroid hormone not synthesized with cholesterol as a precursor. Finally, we propose that Ionotropin serves as the endogenous potassium sparing hormone. Ionotropin provides a new understanding of renal, cardiac, gonadal and placental function.

#### Keywords

Ionotropin, Digoxin-like materials; DLM; endogenous ouabain; phospho-steroids; steroid biosynthesis; potassium sparing hormone

Keywords: as submitted: Digoxin-like materials; phospho-steroids; potassium sparing hormone; Ionotropin; steroid biosynthesis

### Download English Version:

# https://daneshyari.com/en/article/8366089

Download Persian Version:

https://daneshyari.com/article/8366089

<u>Daneshyari.com</u>