Drug Status Report

**Drug:** Virodhamine hydrochloride

**Drug Name Status:** O-Arachidonoyl ethanolamide hydrochloride

**Chemical Name:** 2-aminoethyl(5Z,8Z,11Z,14Z)-icosa-5,8,11,14-tetraenoate

**Chemical structure:**

![Chemical structure of Virodhamine hydrochloride]

**Molecular Formula:** $C_{23}H_{39}NO.HCl$

**Pharmacological class / Application:** Endocannabinoid

**International status:**

**US:** Virodhamine is not listed in the Schedules to the CSA and is not mentioned on the DEA website

**United Nations:** The substance is not listed on the Yellow List - List of Narcotic Drugs under International Control. The drug is not listed on the Green List - List of Psychotropic Substances under International Control.

**Canadian Status:** Virodhamine is an endogenous endocannabinoid that has been shown to bind to the cannabinoid receptors and behave as a partial agonist CB$_1$ receptor but as a full agonist at the CB$_2$ receptor. *In vivo* studies revealed that virodhamine decreased body temperature *via* the activation of the CB$_1$ receptors albeit to a slightly lesser degree than anandamide. When the virodhamine and anandamine were co-administered, antagonist activity of virodhamine at the CB$_1$ receptor was observed.

Cannabinoid receptor agonists have been declared to be included within item 1 of Schedule II to the CDSA by virtue of being “similar synthetic preparations.” Cannabinoid receptor antagonists, however, have been declared to fall outside item 1 of Schedule II to the CDSA. Virodhamine is an effective cannabinoid receptor agonist with antagonist activity at the CB$_1$ receptor and thus is considered to be included under item 1 of Schedule II to the CDSA.

**Recommendation:** Virodhamine is included in item 1 of Schedule II to the CDSA and is a controlled substance.

April 8th, 2010.