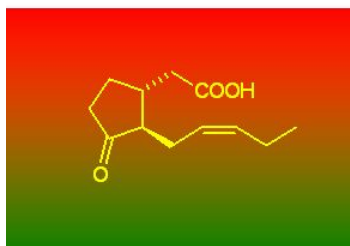


Lipid of the Month: July 2009

(-)-Jasmonic acid



The jasmonate literature goes back to 1962 when Edouard Demole *et al.* isolated and structurally determined methyl jasmonate from jasmine flower oil (1). Methyl jasmonate imparts an attractive scent to jasmine oil, or "jasmine absolute" as it is known by the perfume industry. Jasmonic acid is widely distributed in the plant kingdom and plays important roles in plant developmental processes and in plants' defense against microbial pathogens (2,3). Recent work in this area focusses on the jasmonic acid-isooleucine conjugate (4) and its receptor-mediated actions (5). Chemically, the presence in jasmonic acid of a chiral carbon α to the ring carbonyl presents a structural complication. Thus, whereas natural jasmonic acid, or (+)-7-iso-jasmonic acid, has the *cis* relationship between the two side chain, this structure easily converts to the thermodynamically more stable side chain *trans* form, (-)-jasmonic acid. Recent work has highlighted the importance of the natural *cis* configuration for receptor binding of jasmonic acid-isooleucine conjugates (6), however, other studies have shown that also (-)-jasmonic acid exerts biological actions, in certain cases stronger than those of the (+)-7-iso-jasmonic acid stereoisomer (7).

(-)-Jasmonic acid (O-1803-36) offered by Lipidox is prepared by chemical resolution of (\pm)-jasmonic acid followed by chromatographical removal of the (+)-7-iso-jasmonic acid.

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