Minor iridoids from Scutellaria albida ssp albida. Inhibitory potencies on lipoxygenase, linoleic acid lipid peroxidation and antioxidant activity of iridoids from Scutellaria sp.

A new iridoid glycoside, 6'-O-E-caffeoyl-mussaenosidic acid, in addition to one known aglycon, four known triterpenes and one known flavonoid, were isolated from the aerial parts of Scutellaria albida subsp. albida. Furthermore, 12 iridoids with similar structures isolated from Scutellaria sp., were examined for their inhibitory potency on lipoxygenase and lipid peroxidation, as well as their antioxidant activity, in comparison to known antioxidants e.g. caffeic acid, nordihydroguaretic acid (NDGA) and trolox. AAPH, DPPH and soybean lipoxygenase (LOX) assays were used for the tests. This investigation led to interesting observations considering the Structure-Activity Relationship. According to our results, the presence of a p-coumaroyl group optimized and even dramatically changed the biological responses of the investigated iridoids.