

inflammation, pain, fever and gout arthritis (Kodithuwakku et al. 2013). Chen et al. (2015) found that the ethanol extract of *S. octophylla* showed significant dose-dependent, anti-inflammatory, antinociceptive and anti-rheumatoid arthritis activities. It was found that the levels of TNF- α , IL-1 β and IL-6 in ethanol extract (600 mg/kg) and CHCl₃ fraction (300 mg/kg) groups that were significantly lower. Ethyl acetate extract of *S. arboricola* shows good anti-rheumatoid arthritis activity (Liu et al. 2012).

10.4.1.4 Anti-Tumor Activity

The two lupane type triterpenoid saponins, 3 β -O-(α -L-rhamnopyranosyl-(1 \rightarrow 2)- α -L-arabinopyranosyl)-lup-20(29)-ene-28-O- β -D-glucopyranosyl ester and 3 β -O- α -L-arabinopyranosyl-lup-20(29)-ene-28-O- β -D-glucopyranosyl ester, were isolated from *S. rotundifolia* to inhibit proliferation activity for J774.A1, HEK-293 and WEHI-164 cells (Braca et al. 2004). But the oleanane type triterpenoid saponins 3 β -O-[β -D-glucopyranosyl-(1 \rightarrow 2)- β -D-glucopyranosyl-(1 \rightarrow 3)- β -D-xylopyranosyl]-16 α -hydroxyolean-12-en-28-O-(β -D-galactopyranosyl) ester-30-oic acid and 3 β -O-[β -D-glucopyranosyl-(1 \rightarrow 3)- β -D-xylopyranosyl]-16 α -hydroxyolean-12-en-28-O-(β -D-galactopyranosyl) ester-30-oic acid isolated from *S. fauetigueti* possesses significantly more inhibitory proliferative activity for these three cell lines (Cioffi et al. 2003). Falcarindiol; C18-acetylenverbindung; 3 α -hydroxyoleane-12; 28-dioic acid methyl ester (methyl ester 22); 3 α -hydroxylup-20(29)-ene-23; 28-dioic acid methyl ester; a mixture of γ -tocopherol, docosyl and tetracosyl; 4-hydroxy-trans-cinnamate of docosyl and tetracosyl; and a mixture of hexacosyl 4-hydroxy-cis-cinnamate were obtained from *S. taiwaniana* and shows inhibitory activity towards the HUGC, HONE1 cell to a certain extent and t-murrolol possess significant cytotoxic activity against A-549 (EC₅₀ 3.2 μ g/mL), MCF (EC₅₀ 0.6 μ g/mL) and HT-29 cells (EC₅₀ 1.8 μ g/mL) (Kuo et al. 2002). Liu et al. (2005) found that the Chrysophanol, 2, 6-dimethoxy-p-benzoquinone separated from the dense pulse *S. venulosa*, and could inhibit K562 cells, thus showing a value-added activity, and separated ten palmitic acid also inhibits the proliferation activity on FT210 cells. Yao et al. (2009) found that the essential oil of *S. heptaphylla* possessed significant antiproliferative activity against the human cancer cell lines MCF-7, A375 and HepG2 cells.

10.4.1.5 Anti-Allergic Activity

Matsui et al. (2010) studied Langerhans cells and mast cells for the effects of *S. leucantha* on allergy mediators, and found *S. leucantha* ethanol extract can inhibit the production of allergy mediators to some extent. Falcarinol, heptadeca-1,9(Z)-diene-4,6-diyne-3-ol isolated from the plant *S. arboricola* has been reported to cause allergic contact dermatitis (Hansen et al. 1986).

10.4.1.6 Antioxidant Activity

Deepa and Nalini (2014) on a comparative study between *S. racemosa* and *S. stellata*, found that leaf aqueous extracts exhibited potent antioxidant activity. The aqueous leaf and bark extracts of *S. stellata* showed potent antioxidant activity when compared to the standard antioxidant, ascorbic acid. The maximum TPTZ-Fe (III) complex reduces the ability of TPTZ-Fe (II), and the maximum reducing ability