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The Janus Corner

This occasional section within the journal surveys visions and achievements, often not on the main track of the developing biomedical sciences, but all relating to discoveries and developments of medicinal – both ancient and modern. What they have in common, in one way or another is providing further background and glances around the edges of the core discipline of pharmacognosy, as it has been and continues to evolve within our times.

A Compound Isolated From a Chinese Herbal Medicine Inhibits Hepatitis C Virus Activity

Ian Edwin Cock[1,2*]

[1]*School of Natural Sciences, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, Australia.*
[2]*Environmental Futures Centre, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, Australia.*

A recent study has identified a novel compound designated SBEL1 which is present in Chinese medicinal herb sourced from southern China and Taiwan as being effective in inhibiting the hepatitis C virus (HCV) lifecycle.[1] Indeed, the compound can block HCV activity by as much as 90%. Whilst the ethnobotanical uses of the herb are not thought to include the treatment of hepatitis, it has traditionally been used in the treatment of several other diseases which may be due to viruses. Thus, the compound may also be useful in the treatment of other viral diseases. As yet, the antiviral mechanism of SBEL1 is unknown although early testing indicates that the compound may have a pleuripotent mechanism. Pre-treatment of liver cells with SBEL1 was found to block HCV viral entry. Furthermore, HCV RNA levels were reduced by approximately 80%, indicating that the compound may also block viral replication.

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Blocking the Onset of Chronic Autoimmune Diseases with Plant Extracts

I.E.Cock[ab*]

[a]*School of Natural Sciences, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, Australia.*
[b]*Environmental Futures Centre, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, Australia.*

A recent study published in the journal Inflammopharmacology[1] highlights the potential of plant extracts to inhibit the onset of the symptoms of ankylosing spondylitis (AS) by blocking a bacterial trigger of this disease. AS is a form of chronic inflammatory arthritis which mainly affects the spinal joints and large synovial joints such as

the sacroiliac joint in the pelvis. AS afflicts up to 0.9 % of the world's population[2] and is induced in susceptible individuals (who have the MHC allele HLA-B27) in conjunction with gastrointestinal infections of the bacteria *Klebsiellia pneumoniae*.[2] This stimulates an immune response resulting in the production of antibodies that are cross-reactive with self-tissues (particularly collagens I, III and IV in the spinal joints and in the sacroiliac joint in the pelvis),[3] initiating a series of downstream inflammatory cascades. Increased self-reactive antibody production and thus increased tissue damage is seen with recurrent infections. Thus, blocking these initiating phases of AS has the potential to not only block the inflammatory symptoms of the disease, but also to stop the joint tissue degradation that may still occur when AS is treated with current inflammatory blockers.

The study used an ethnoparmacological approach to identify South African plant species with a history of use in traditional medicine systems to treat inflammatory disorders. A number of species were identified as particularly promising. Of these, *Ballota africana*, *Carpobrotus edulis*, *Kigellia africana*, *Lippia javanica*, *Pelargonium viridflorum*, *Syzygium cordatum*, *Terminalia pruinoides* and *Terminalia sericea* were particularly potent. Interestingly, the anti-inflammatory phytochemical resveratrol was detected in the 2 Terminalia species, indicating that they may also directly inhibit the inflammatory processes, as well as blocking the bacterial trigger. These 2 plants may therefore prove to be especially effective in the prevention and treatment of AS.

This study follows on from a previous study from these researchers which tested the same panel of plants against bacterial triggers (Proteus spp.) of rheumatoid arthritis (RA). That study found many of the same plant species were also effective at blocking *Proteus mirabilis* growth, and thus also have potential as preventative agents for RA. Similar studies have also indicated the potential of Australian medicinal plants for the treatment of RA and AS,[5-7] and for multiple sclerosis.[5,8]

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