Antimicrobial and antioxidant activity of royal jelly and biopeptides derived

Royal jelly (RJ) is one of the most attractive ingredients for functional foods. Having pharmaceutical, antitumoral, antimicrobial and antioxidative properties, RJ seems to be applicable in both health food and medicine. The protein fractions in RJ have high antioxidative activities and scavenging abilities against active oxygen species. RJ proteins hydrolyzed with protease N show the highest antioxidative activities. Antimicrobial activity of RJ is (to some extent) related to royalisin and jellines and their acids. The unique feature of RJ is a set of C8, C10 and C12 hydroxy fatty acids. The main RJ acid, 11-hydroxy-1-decenoic acid (\(11\)-HAD) is known to have various pharmacological effects including antibiotic, antitumoral, antioxidative and hypoglycemic activities and no other natural product containing \(11\)-HDA has yet been found.