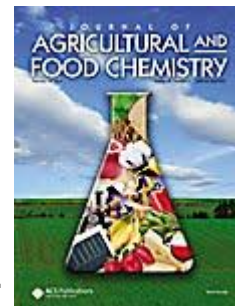


Royal Jelly Component Shows Anti-Bacterial Activity



Expression of Acc-Royalisin Gene from Royal Jelly of Chinese Honeybee in *Escherichia coli* and Its Antibacterial Activity

[J. Agric. Food Chem.](#), Article ASAP

Royalisin is an antibacterial peptide found in Royal Jelly.

Two gene fragments of Chinese honeybee (*Apis cerana cerana*) head, 280 bp cDNA encoding pre-pro-Acc-royalisin (PPAR) of 95 amino acid residues, and 165 bp cDNA encoding mature Acc-royalisin (MAR) of 51 amino acid residues were cloned into the pGEX-4T-2 vector. They were then transformed individually into *Escherichia coli* for expression.

Two expressed fusion proteins, glutathione S-transferase (GST)-PPAR of 36 kDa and GST-MAR of 32 kDa were obtained, which were cross reacted with GST antibody accounting for up to 16.3% and 15.4% of bacterial protein, respectively. In addition, 41% of GST-PPAR and nearly 100% of GST-MAR were soluble proteins.

Both lysates of the two purified fusion proteins displayed antibacterial activities, similar to that of nisin against Gram-positive bacteria strains, *Staphylococcus aureus*, *Bacillus subtilis* and *Micrococcus luteus*. MAR peptide released from the thrombin-cleaved GST-MAR fusion protein has a stronger antibacterial activity than that of GST-MAR fusion protein.

Posted by Editor at [1:00 AM](#)