# Effect of linoleic acid concentration on conjugated linoleic acid production by *Bifidobacterium breve*

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Conjugated linoleic acid (CLA), a generic name of geometric and positional isomer of linoleic acid, has attracted considerable attention because of its many potential and beneficial biological effects. In animal models, it has been shown that CLA enhances the immune system, reduces body fat and has growth-promoting, anticarcinogenic, and antiatherogenic activities.

CLA is produced from polyunsaturated fatty acids by rumen microorganism such as *Butyrivibrio* species. It has been reported that two strains of *Propionibacterium*, six lactic cultures and *Bifidobacterium* species are capable of isomerizing linoleic acid to CLA.

Many ruminal bacteria are inhibited by polyunsaturated long-chain fatty acid, and gram-positive bacteria is more sensitive than the gram-negative species. The site of antimicrobial action of fatty acid is the cytoplasmic membrane. One of the difficulties in the development of large-scale processes for CLA production has been the strong anti-microbial activity of linoleic acid.

In this study, *Bifidobacterium breve* was cultivated with different concentration of free linoleic acid in MRS medium.

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