

## Highly branched and modified dextran as a potential dental plaque control materials

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### Abstract

Modified dextrans [carboxymethyl-, chlorocarboxy methyl-, carboxymethyl n-propylamide dextran, CMDDB (carboxymethyl, dextran, benzylamide), and CMDDBS (carboxymethyl, dextran, benzylamide, sulfonate)] of 0.34%(w/v) effectively inhibited fructose release from sucrose by *Streptococcus mutans* 6715 mutansucrase. In case of chlorocarboxymethyl dextran and carboxymethyl n-propylamide dextran, they reduced the mutansucrase activity at 54.5% and 69.5%, respectively. Carboxymethyl dextran also slightly reduced the mutansucrase activity about 18.7%. In case of the mutansucrase activities from *Streptococcus sobrinus*, the carboxymethyl dextran and carboxymethyl n-propylamide dextran inhibited 51.3% and 38%, respectively. Most modified dextran with the concentration of 0.5% (w/v) effectively inhibited the formation of insoluble glucan and prevented the adherence of *S. mutans* or *S. sobrinus* cell on the surface of glass vial in the presence of sucrose (5 - 10%).

### References

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