



# Innovation Package for Pediatric Caries Prevention and Therapeutics



## Apacider Mangosteen Adhesive Paste (AMAP)

Dental caries is multifactorial and dynamic disease that results in the phasic demineralization and remineralization of dental enamel. Effective preventive and interceptive methods include cariogenic microorganism inhibition and treatment with remineralization agents. Dental caries prevention available on the current market contain only antibacterial or remineralization agents. AMAP innovation under the protection of KKU patent number 1601000575 aimed to develop adhesive paste containing calcium phosphate and alpha-mangostin with antibacterial and remineralization potential in one product. From experimental studies showed that the remineralization potential of AMAP was comparable to fluoride varnish without extrinsic staining left on enamel tooth surface after the application.



## Punica granatum antibacterial gel for topical application (PGT)



PGT innovation under the protection of KKU patent number 1601002858 is newly topical gel for oral use that has properties against early acquisition and overgrowth of acid tolerating and acidogenic species such as *S. mutans* and *S. Sanguis* and consequently, preventing the initiation and progression of dental caries.

PGT raw materials is considered low cost and locally available in local market of Thailand. With PGT feasibility in experimentation and product manufacture in gel preparation, it becomes an added value to pediatric oral health and special need patients who are unable to achieve standard level of oral hygiene control.

## Apacaries Gel (AG)

New approaches in pediatric dental caries management aim to manage both initial carious lesion by promoting remineralization to prevent the extension of the disease and promote drill-less dentistry. With the pandemic of COVID-19, pediatric dental caries management has now been strongly focused on remineralization therapy and minimal intervention to limit aerosol generating procedures.



Apacaries gel innovation (patent number 9384) is aimed to promote minimal intervention technology approaches to cavitated carious lesion in order to preserve tooth structure by chemomechanical caries removal innovated from papain and mangosteen extract in gel form preparation. From the experimental and clinical studies showed that Apacaries gel in combination with spoon excavator was superior in caries removal to water based gel and/or spoon excavator alone. With several support from scientific studies Apacaries gel are now being recommended for new era of caries therapeutics in pediatric dental practices.

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