

Cocoa Butter Alternatives

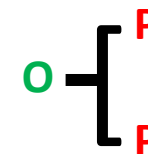
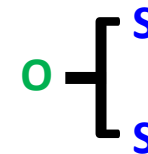
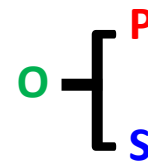


Natural Cocoa Butter (CB): solid fat extracted from cacao (*Theobroma cacao*); melting point (32-35 °C); 3 dominant triacylglycerols (TAGs) are (POS, 36-42%), (SOS, 23-29%) and (POP, 13-19%).

Cocoa Butter Alternatives (CBA):

- ❖ **Cocoa butter equivalent (CBE):** same general chemical composition and physical properties as CB. Compatible with CB in any proportion.
- ❖ **Cocoa butter substitute (CBS):** based on lauric fats (e.g. coconut oil), share some of the physical properties of CB but have a different composition and are suitable only to fully substitute CB.
- ❖ **Cocoa butter replacer (CBR):** based on non-lauric fats (e.g. palm oil), similar fatty acid distribution but a completely different TAG structure than CB and are compatible only in small ratios.

Lipase-Catalyzed Production of CBA: oils and fats can be modified with a lipase to obtain POS, SOS, and POP type TAGs. The produced SLs can be used in food, pharmaceuticals, and cosmetic industries.



O, oleic acid
P, palmitic acid
S, stearic acid