



ABSTRACT

Taro starch was isolated from Mexican variety and its morphological, physicochemical, and molecular characteristics were evaluated. Yield starch (in dry basis) was 81%, and this starch had low AM content (2.5%). Taro starch granules showed a mixture of shapes with sizes between 1 and 5 μm . Taro starch presented an A-type XRD pattern with a crystallinity level of 38.26%. Solubility and water retention capacity did not change in the temperature range of 50–70°C and thereafter they increased as temperature increased too. Taro starch showed high peak viscosity due to its high AP content. The peak temperature of gelatinization of taro starch was 80.6°C with an enthalpy value of 10.6 J/g, with low retrogradation rate due to its low AM content. Weight-average molar mass (M_w) and gyration radius (R_z) of taro starch were $1.21 \pm 0.8 \times 10^9$ g/mol and 424 ± 70 nm, respectively. Taro tuber could be an alternative for starch isolation with functional and physicochemical characteristics for food and non-food applications.

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