Taro (*Colocasia esculenta*) is an important group of tropical root crops; it is produced and consumed as a staple food by about 400 million people. The average yields obtained from this crop are below the potentials of the crop – due to various constraints but majorly poor quality of plantable setts, and field diseases. In addition, existing taro breeding programmes are constrained by a narrow genetic base and lack of knowledge of the genetic diversity in the species. As a result, there is limited knowledge on additional sources of disease resistance and information on the potential agronomic value of genotypes. This study aimed to develop a simple and low cost medium for *in vitro* micro-propagation of taro. Furthermore, genetic diversity of Taro from Eastern Kenya was elucidated using microsatellite markers. Four simple sequence repeat primers were used which generated 19 markers out of which 7 were polymorphic. The number of polymorphic products ranged from 1 to 3 and sizes from 250 kb to 1550 kb. Percent polymorphism ranged from 33% to 42.85%. AMOVA results showed significant genetic difference within population (79 %, $P< 0.001$) but among population it was low (21 %, $P< 0.001$. For micro-propagation, three media low cost substitutes for Murashige and Skoog salts were tested. Omex foliar feed 24-24-18 + trace elements from Murphy Chemicals (E.A) Limited – a complete substitute for MS salts since it contains both macronutrients and micronutrients. The second treatment consisted of Stanes micronutrients from Osho Chemicals Limited while macronutrients came from low cost alternatives in the market that are used as fertilizers available in agrovet shops. The other treatment consisted of microfood® horticulture from Osho East Africa as source of micronutrients while macronutrients came from low cost alternatives in the market. The shoot generation was significant for low cost media 1 on Eddoe variety and low cost media 2 for Wild variety but control on all varieties of low cost media 3 there was no significance. The height was significant with control having 5.83±014 cm, low cost media1 2.7±0.10 cm, Low cost media2 3.31±0.09 cm and Low cost media3 4.6±012 cm. When the number of roots was considered then there was no significance between the treatments of Naphthalene Acetic Acid and those that Citishooter was used as rooting hormone. The plants regenerated were of the same morphology and vigour and therefore this protocol can be used to propagate taro plants similar those of conventional media. Data from the present work indicate that biotechnological interventions such as tissue culture and molecular marker assisted genetic characterisation in combination provide a unique and powerful tool to improve taro germplasm.