

ABSTRACT

PERBEDAAN DAYA ANTIOKSIDAN ANTARA EKSTRAK TEH HIJAU (*Camellia sinensis*), EKSTRAK KULIT BUAH COKLAT (*Theobroma cacao* Linnaeus), DAN KOMBINASINYA

THE DIFFERENCE OF ANTIOXIDANT POWER BETWEEN GREEN TEA EXTRACT (*Camellia sinensis*), CACAO POD HUSK EXTRACT (*Theobroma cacao* Linnaeus), AND THEIR COMBINATION

ABSTRACT

Background. Reactive Oxygen Species (ROS) is the result of a cellular redox process that has toxic properties but it also has a beneficial component. ROS can cause oxidative stress and can induce cell death and have an important role in the occurrence of acute infection and inflammation in the tissues. The bioactive components of herbal ingredients scientifically tested have antioxidant capabilities. The antioxidant components present in green tea and cacao pod husk such as phenol acids, polyphenols and flavonoids capture free radicals such as peroxide, hydrogen peroxide, hydroperoxide or lipid peroxide and are able to prevent oxidative mechanisms that cause harm to humans. **Purpose.** The aim of this study is to explain the difference of antioxidant power between green tea extract, cacao pod husk extract, and combination of both extract. **Method.** This research is a laboratory experimental with the post test only control group design. The antioxidant power of green tea extract, cacao pod husk extract, and combination of both extract are tested with DPPH act as free radical and the data obtained from absorbance measurement in spectrophotometer determine the value of IC_{50} expressed in parts per million (PPM). **Result.** IC_{50} value of green tea is 9 ppm, combination of both extract is 19,3439 ppm and cacao pod husk extract is 58,5102 ppm. **Conclusion.** Green tea extract has the best antioxidant power by inhibiting 50% of DPPH radical at 9 ppm.

Keywords: Green tea extract, cacao pod husk extract, antioxidant power, DPPH, IC_{50}