ABSTRACT

Pereskia bleo (Kunth) DC locally known as 'Jarum Tujuh Bilah' from Cactaceae family is traditionally used in Malaysia for the treatment of several diseases. The present study was aimed to evaluate the antioxidant and antidiabetic properties of both ethanolic extract of PB leaves (PBLE) and ethyl acetate extract of endophyte isolated from PB leaves (PBEE).

The endophytes from the leaves of of *Pereskia Bleo* (Kunth) DC was isolated and identified as *Escherichia coli* by 16S rRNA sequence based method of bacterial identification. The phytochemical screening portrayed similar phytoconstituents present in both PBEE and PBLE extracts. The total phenolic content in PBEE was found to 8.32% higher as compared to PBLE. Similar pattern were observed for total flavonoids (TF) determination where PBEE showed 6.52% higher TF value as compared to PBLE.

PBEE exhibited good percentage scavenging of free radicals by DPPH assay (IC_{50} of 352.6 µg/mL) and ABTS assay (IC_{50} of 349.01 µg/mL) as compared to PBLE (DPPH, IC_{50} of 458.32 µg/mL and ABTS, IC_{50} of 418.92 µg/mL) at the highest concentration. PBEE exhibited proportional increase in concentration response to percentage inhibition of alpha amylase (IC_{50} of 96.64 µg/mL) and alpha glucosidase (IC_{50} 81.7 µg/mL) and are comparable to standard Acarbose. The hypoglycaemic effect in normoglycemic rats demonstrated that PBEE (200 mg/kg, p.o) caused significant post dose decrease in blood glucose levels $P<0.001$ at 8 h. The blood glucose level in STZ-induced diabetic rats showed significant reduction $P<0.01$ at 4 h at the dose level of 200 mg/kg BW of PBEE and this effect was comparable with that of glibenclamide.