**EXTRACTION OPTIMIZATION**

Extraction of the peel powder was done using 90% acetone at a ratio of 1:10 (powder: solvent) for 1 hour. The procedure was done three times to maximize its efficiency. The extract obtained at the end of the procedure was dissolved in 50% DMSO to obtain extract concentrations of 50%, 40%, 30%, 25%, 20%, 10%, 5% and 1%.

Table 1: Evaluation of the Total phenolic content (TPC) of the peel extract

|  |  |  |  |
| --- | --- | --- | --- |
| Crude extract | TPC (mg/100g) | ABTS (mM TE/g) | DPPH (mM TE/g) |
| A | 217225.6 ± 5564.9 |  |  |
| B | 211503.6 ± 8299.8 |  |  |
| C | 207981.5 ± 7416.7 |  |  |

Values are means and standard deviations of three replicates done six times (*n*=18)

**ANTIMICROBIAL SCREENING**

Table 2: Susceptibility of the test organisms to the crude extract

|  |  |  |  |
| --- | --- | --- | --- |
| Test organism | Crude extract | | |
| **A** | **B** | **C** |
| *Escherichia coli* ATCC 11775 | **+** | **+** | **+** |
| *Listeria monocytogenes* ATCC 19115 | **+** | **+** | **+** |
| *Saccharomyces cerevisiae* ATCC 9763 | **-** | **-** | **-** |
| *Zygosaccharomyces parabailii* ATCC MYA-4549 | **+** | **+** | **+** |

Where, positive = *susceptible to the extract*, negative = *not susceptible to the extract*

Table 3: Evaluation of the anti-microbial activity of different concentrations of *Carica papaya* peel extracts

|  |  |  |  |
| --- | --- | --- | --- |
| Extract concentration (mg/mL DMSO) | Mean Diameter of inhibition zone (mm) | | |
| *E. coli* | *L. monocytogenes* | *Z. parabailii* |
| 500 | 9.50 ± 0.84 | 11.75 ± 0.76 |  |
| 400 | 8.55 ± 1.14 | 10.83 ± 0.98 |  |
| 300 | 8.17 ± 0.26 | 9.33 ± 0.41 |  |
| 250 | 7.60 ± 0.15 | 8.92 ± 0.66 |  |

Values are means and standard deviations of 3 replicates done twice (*n*=6)

Table 4: Minimum inhibitory concentration (*MIC*) of the crude extract against the different test organisms

|  |  |  |  |
| --- | --- | --- | --- |
| Crude extract concentration (mg/mL) | Test organism | | |
| *E. coli* ATCC 11775 | *L. monocytogenes* ATCC 19115 | *Z. parabailii* ATCC MYA-4549 |
| 500 | + | + |  |
| 400 | + | + |  |
| 300 | + | + |  |
| 250 | + | + |  |
| 200 | - | - |  |
| 100 | - | - |  |
| 50 | - | - |  |
| 10 | - | - |  |
| *MIC* (mg/mL) | 250 | 250 |  |

Where positive = inhibitory action of extract and negative = non-inhibitory action of extract