**Table S1:** Primers list that was used in the qRT-PCR analysis

|  |  |  |  |
| --- | --- | --- | --- |
| **Forward/ reverse** | **Biomarkers** | **Sequence** | **Accession No.** |
| Forward | IL-1α  | CCTCGTCCTAAGTCACTCGC | NM\_017019.1 |
| Reverse | IL-1α  | GGCTGGTTCCACTAGGCTTT |
| Forward | IL-1 β  | GACTTCACCATGGAACCCGT  | NM\_031512.2 |
| Reverse | IL-1 β  | GGAGACTGCCCATTCTCGAC |
| Forward | Ach esterase  | TAGCACCCCACTCCATTCTCA | NM\_172009.1 |
| Reverse | Ach esterase  | TCCCCTCAACATCAGGCTCA |
| Forward | TNF α  | GGAGGGAGAACAGCAACTCC | NM\_012675.3 |
| Reverse | TNF α  | TCTGCCAGTTCCACATCTCG |
| Forward | β secretase  | CCAACCTTCGTTTGCCCAAG | NM\_019204.2 |
| Reverse | β secretase  | GCGGAAGGACTGATTGGTGA |
| Forward | GADPH  | GGAGTCCCCATCCCAACTCA | XM\_017592435.1 |
| Reverse | GADPH  | GCCCATAACCCCCACAACAC |

**Table S2:** IC50 value of ascorbic acid (standard) and ECM

|  |  |
| --- | --- |
|  | **IC50 Value (µg/mL) ± SD (n=3)** |
| Ascorbic acid | 11.37 ± 0.35 |
| ECM | 18.61 ± 0.23 |

**Table S3:** Plant-based compounds used in AD

|  |  |  |
| --- | --- | --- |
| **Compound** | **MOA** | **Reference** |
| Quercetin | Inhibition of tau-phosphorylation, Aβ-aggregation, acetylcholinesterase, and attenuation of oxidative stress, neuroinflammation | (Karthika et al., 2022) |
| Galantamine  | Inhibition of acetylcholinesterase | (Zhao et al., 2002) |
| Ginsenosides  | Inhibition of acetylcholinesterase, and aggregation of amyloid-beta (Aβ) | (John et al., 2022) |
| Ginkgolides  | Inhibition of acetylcholinesterase, antioxidant, reduce the amyloid precursor protein (APP) level, anti-inflammatory | (Nowak et al., 2021) |
| Tacrine | Inhibition of acetylcholinesterase | (Akram and Nawaz 2017) |
| Withania somnifera | Increase acetylcholine level | (Abedon et al., 2008) |
| Curcumin | Reduction of plaque-deposition, amyloid pathology and oxidative stress | (Bhat et al., 2022) |
| Glycyrrhizin and glycyrrhizic acid | Inhibit the ROS generation, GSH activity | (Essa et al., 2012) |
| Moringa oleifera | Neuroprotective, antioxidant and anti-inflammatory | (Nwidu et al., 2018) |
| Ferulic acid | AChE inhibition, antioxidant  | (Amalraj and Gopi 2017) |
| Carotenoids, chlorogenic acid and caffeic acid  | Antioxidant, AChE inhibitor | (Vladimir-Knežević et al., 2014) |
| Thymoquinone | AChE inhibitor, neuroprotective, antioxidant, anti-inflammatory | (Khazdair 2015) |