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LIST OF ABBREVIATIONS AND SYMBOLS

| А | = | absorbance (for DPPH assay) |
|---------------------|---|---|
| AP | = | alkaline phosphatase |
| В | = | absorbance of blank |
| BHT | = | butylated hydroxytoluene |
| br | = | broad (for NMR spectra) |
| br d | = | broad doublet (for NMR spectra) |
| °C | = | degree celsius |
| CC | = | column chromatography |
| CDCl ₃ | = | deuterochloroform |
| CD ₃ OD | = | deuteromethanol |
| CHCl ₃ | = | chloroform |
| ¹³ C-NMR | = | carbon-13 nuclear magnetic resonance |
| CO ₂ | = | carbondioxide |
| cm | = | centimeter |
| d | = | doublet (for NMR spectra) |
| dd | = | doublet of doublet (for NMR spectra) |
| DIG | = | digoxigenin |
| DMSO | = | dimethyl sulphoxide |
| DNA | = | deoxyribonucleic acid |
| DPPH | = | 1,1-diphenyl-2-picrylhydrazyl |
| EA | = | absorbance due to the extract alone (for liposome assay) |
| EC ₅₀ | = | concentration causing 50 % effective activity |
| EDTA | = | ethylenediamine tetraacetic acid |
| EI-MS | = | electron impact mass spectroscopy |
| ET | = | absorbance of the extract test mixture (for liposome assay) |
| EtOH | = | ethanol |
| EtOAc | = | ethyl acetate |

| FeCl ₃ | = | ferric chloride |
|-------------------|---|-----------------|
| g | = | gram |

LIST OF ABBREVIATIONS AND SYMBOLS (Continued)

| FRM | = | absorbance of the full reaction mixture (liposome and iron source | | |
|--------------------|--------|---|--|--|
| | plus s | plus solvent without the test substance) | | |
| FTNMR | = | fourier transform nuclear magnetic resonance | | |
| ¹ H-NMR | = | proton nuclear magnetic resonance | | |
| HC1 | = | hydrochloric acid | | |
| Hex | = | hexane | | |
| H_2O | = | water | | |
| H_2O_2 | = | hydrogen peroxide | | |
| hr | = | hour | | |
| Hz | = | hertz | | |
| IC_{50} | = | concentration causing 50% inhibitory effect | | |
| In | = | inch | | |
| IR | = | infrared | | |
| KBr | = | potassium bromide | | |
| IN | = | integrase | | |
| J | = | nuclear spin-spin coupling constant (in Hz) | | |
| Kg | = | kilogram | | |
| 1 | = | litre | | |
| LTR-D | = | long terminal repeat donor | | |
| М | = | molar (concentration) | | |
| M+ | = | molecular ion | | |
| m | = | the weight of plant extract (mg) | | |
| m | = | meter | | |
| m | = | multiplet (for NMR spectra) | | |
| | | | | |

| MDA | = | malonaldehyde |
|------|---|------------------------------|
| MeOH | = | methanol |
| mg | = | milligram |
| MHz | = | megahertz |
| MIA | = | multiplate integration assay |
| ml | = | milliliter |
| | | |

LIST OF ABBREVIATIONS AND SYMBOLS (Continued)

| mm | = | millimeter |
|----------------|---|----------------------------|
| mM | = | millimolar |
| mol | = | mole |
| MS | = | mass spectrometry |
| MW | = | molecular weight |
| m/z | = | mass to charge ratio |
| $\mu_{ m g}$ | = | microgram |
| μı | = | microliter |
| μм | = | micromolar |
| μ m | = | micrometre |
| NCI | = | national cancer institute |
| nm | = | nanometer |
| nM | = | nanomolar |
| NMR | = | nuclear magnetic resonance |
| O ₂ | = | oxygen |
| OD | = | optical density |
| PBS | = | phosphate buffer saline |
| ppm | = | part per million |
| pmol | = | picomole |
| pN | = | p-nitrophenol |
| <i>p</i> -NP | = | p-nitrophenyl phosphate |
| ROS | = | reactive oxygen species |
| | | |

| rpm | = | round per minute |
|-----|---|----------------------------|
| S | = | singlet (for NMR spectra) |
| sec | = | second |
| SEM | = | standard error of the mean |
| t | = | triplet (for NMR spectra) |
| TBA | = | thiobarbituric acid |
| TLC | = | thin-layer chromatography |
| TMS | = | tetramethylsilane |

LIST OF ABBREVIATIONS AND SYMBOLS (Continued)

| TS | = | target substrate |
|--------|---|--|
| UV | = | ultraviolet |
| UV-vis | = | ultraviolet and visible spectrometry |
| V | = | the volume of extract (ml) |
| VLC | = | vacuum liquid chromatography |
| w/w | = | weight/weight |
| δ | = | chemical shift (in ppm, for NMR spectra) |
| λ | = | wavelength (for UV spectra) |
| 3 | = | molar absorptivity (for UV spectra) |
| ν | = | wavenumber (for IR spectra) |