**SUPPLEMENTARY MATERIALS**

**Table S1: Composition of different herbal tea formulations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Constituents** | **Formulation 1** | **Formulation 2** | **Formulation 3** |
| *Cymbopogon citratus* leaves | 70% | 60% | 50% |
| *Foeniculum vulgare* seeds | 20% | 30% | 40% |
| *Murraya koenigii* leaves | 10% | 20% | 30% |

**TableS 2: Qualitative phytochemical analysis of aqueous extracts of samples**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Phytochemical Tests** | **Herbal tea** | ***Cymbopogon citratus* leaves** | ***Foeniculum vulgare* seeds** | ***Murraya koenigii* leaves** |
| Phylobatannins | - | - | - | - |
| Tannins | + | + | + | + |
| Anthraquinones | - | - | - | - |
| Carotenoids | - | - | - | - |
| Terpenoids | + | - | - | + |
| Flavonoids  | + | + | + | + |
| Saponins (Foam Test) | + | + | + | + |
| Steroids | - | - | - | - |
| Proteins (Ninhydrin test) | - | - | + | + |
| Carbohydrates  | + | - | - | + |
| Quinones | + | + | + | + |
| Coumarins | + | + | + | + |
| Alkaloids (Hager’s test) | + | + | + | + |
| Glycosides (Keller Kilianin test) | + | + | + | + |
| Phytosterol | - | - | - | - |
| Phenolic compound | + | + | + | + |

**Table S3: Binding of the ligands (rutin, citronellal and vanillic acid) to FTO protein**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Amino acids** | **Ligand-AA binding sites** | **Bonding** | **Length (Å)** |
| **Interaction of rutin with FTO protein**  | Glu 368Lys 365Arg 380Asn 372His 371Trp 407Glu 375Phe 376 | O9-OE1O10-OO11-NH1O2-ND2 | Hydrogen bondingHydrogen bondingHydrogen bondingHydrogen bondingHydrophobic contactHydrophobic contactHydrophobic contactHydrophobic contact | 2.972.872.833.08 |
| **Interaction of citronellal with FTO protein** | Tyr 389Gln 381Trp 396Arg 322Trp 378Val 323Ala 324Glu 377 | O1-OH | Hydrogen bondingHydrophobic contactHydrophobic contactHydrophobic contactHydrophobic contactHydrophobic contactHydrophobic contactHydrophobic contact | 3.13 |
| **Interaction of vanillic acid with FTO protein** | Val 413Thr 414Gly 367Glu 368Leu 356 |  | Hydrophobic contactHydrophobic contactHydrophobic contactHydrophobic contactHydrophobic contact |  |