

I/We claim

1. Synergistic compositions comprising at least two ingredients selected from extract(s), fraction(s), phytochemical(s), or mixtures thereof derived each one from a different herb selected from *Abelmoschus esculentus*, *Withania somnifera* and *Amorphophallus paeoniifolius*; for improving at least one gut health function selected from gut-brain axis, easing of constipation, bowel movement, gastro-intestinal (GI) motility, digestion and gut immunity; and reducing gut inflammation.
2. The synergistic composition as claimed in claim-1, wherein the first ingredient is selected from extract(s), fraction(s), phytochemical(s), or mixtures thereof derived from *Abelmoschus esculentus*, *Withania somnifera* and *Amorphophallus paeoniifolius* and the second ingredient is selected from extract(s), fraction(s), phytochemical(s), or mixtures thereof derived from *Abelmoschus esculentus*, *Withania somnifera* and *Amorphophallus paeoniifolius*, and wherein, the first and second ingredients are selected from different herbs.
3. The synergistic composition as claimed in claim-2, wherein the weight of the first ingredient varies in the range of 10%-90% and the weight of the second ingredient varies in the range of 90% -10% in the composition.
4. The synergistic composition as claimed in claim 1, where in the extract(s), fraction(s), phytochemical(s) or mixtures thereof derived from *Abelmoschus esculentus*, *Withania somnifera* and *Amorphophallus paeoniifolius*; are standardized to at least one phytochemical reference marker compound or pharmacologically active marker in the extract(s), fraction(s), or mixtures thereof; wherein phytochemical marker compound or group of phytochemical compounds is in the concentration range of 0.01% to 99% by weight of the extract.
5. The synergistic composition as claimed in claim 4, wherein said *Abelmoschus esculentus* extract or fraction is standardized to total polysaccharides; wherein the total polysaccharides concentration varies in the range of 0.01% to 50% by weight of the composition.

6. The synergistic composition as claimed in claim 4, wherein said *Withania somnifera* extract or fraction is standardized to total withanolides; wherein the total withanolides concentration varies range of 0.01% to 50% by weight of the composition.
7. The synergistic compositions as claimed in claim 1, wherein the compositions optionally containing at least one component selected from pharmaceutically, nutraceutically or dietetically acceptable excipients, carriers, and diluents.
8. The synergistic compositions as claimed in claim 7, wherein the pharmaceutically, nutraceutically or dietetically acceptable excipients, carriers and diluents are selected from Monosaccharide's such as glucose, dextrose, fructose, galactose etc.; Disaccharides such as but not limited to sucrose, maltose, lactose, lactulose, trehalose cellobiose, chitobiose etc.; Polycarbohydrates such as starch and modified starch such as sodium starch glycolate, pre-gelatinized starch, soluble starch, and other modified starches; Dextrins that are produced by hydrolysis of starch or glycogen such as yellow dextrin, white dextrin, maltodextrin etc.; Polyhydric alcohols or sugar alcohols such as but not limited to sorbitol, mannitol, inositol, xylitol, isomalt etc.; cellulose based derivatives such as but not limited to microcrystalline cellulose, hydroxy propyl methyl cellulose, hydroxy ethyl cellulose etc.; silicates such as but not limited to neusilin, veegum, talc, colloidal silicon dioxide etc.; metallic stearates such as but not limited to calcium stearate, magnesium stearate, zinc stearate etc.; Organic acids such as citric acid, tartaric acid, malic acid, succinic acid, lactic acid, L-ascorbic acid etc.; Fatty acid esters and esters of poly sorbate, natural gums such as but not limited to acacia, carrageenan, guar gum, xanthan gum etc.; vitamin B group, nicotinamide, calcium pantothenate, amino acids, proteins such as but not limited to casein, gelatin, pectin, agar; organic metal salts such as but not limited to sodium chloride, calcium chloride, dicalcium phosphate, zinc sulphate, zinc chloride etc.; natural pigments, flavors, class I & class II preservatives and aqueous, alcoholic,

hydro-alcoholic, organic or aqueous solutions of the above listed ingredients alone or in combination.

9. The synergistic composition as claimed in claims 1, wherein the composition is formulated into a dosage form selected from dry powder form, liquid form, beverage, food product, dietary supplement or any suitable form such as a tablet, a capsule, a soft chewable tablet or gummy bear.
10. The synergistic composition as claimed in claims 1, wherein the composition is formulated into nutritional/dietary supplements that can be contemplated/made into the dosage form of healthy foods, or food for specified health uses such as solid food like chocolate or nutritional bars, semisolid food like cream, jam, or gel or beverage such as refreshing beverage, lactic acid bacteria beverage, drop, candy, chewing gum, gummy candy, yoghurt, ice cream, pudding, soft adzuki bean jelly, jelly, cookie, tea, soft drink, juice, milk, coffee, cereal, snack bar.
11. The synergistic compositions as claimed in claims 1, wherein the extract(s), fraction(s), phytochemical(s) or mixtures thereof are obtained from at least one plant part selected from the group consisting of leaves, stems, tender stems, tender twigs, aerial parts, whole fruit, fruit peel rind, seeds, flower heads, root, bark, hardwood or whole plant or mixtures thereof.
12. The synergistic compositions as claimed in claims 1, wherein the extract(s), fraction(s), phytochemical(s) or mixtures thereof; are produced using at least one solvent selected from C1-C5 alcohols selected from ethanol, methanol, n-propanol, isopropyl alcohol; ketones selected from acetone, methylisobutyl ketone, chlorinated solvents selected from methylene dichloride and chloroform, water and mixtures thereof; C1-C7 hydrocarbons such as hexane; esters like ethyl acetate and the like and mixtures thereof.
13. A method of improving at least one gut health function selected from gut-brain axis, easing of constipation, bowel movement, GI motility, digestion and gut immunity; and reducing gut inflammation in a human, wherein the

method comprises supplementing the human with an effective dose of a composition comprising at least two ingredients selected from extract(s), fraction(s), phytochemical(s) or mixtures thereof derived each one from different herbs selected from *Abelmoschus esculentus*, *Withania somnifera* and *Amorphophallus paeoniifolius* and optionally containing at least one component selected from pharmaceutically or nutraceutically or dietetically acceptable excipients, carriers and diluents.

14. Use of synergistic compositions comprising at least two ingredients selected from extract(s), fraction(s), phytochemical(s) or mixtures thereof derived each one from different herbs selected from *Abelmoschus esculentus*, *Withania somnifera* and *Amorphophallus paeoniifolius* and optionally containing pharmaceutically or nutraceutically or dietetically acceptable carriers/excipients for improving at least one gut health function selected from gut-brain axis, easing of constipation, bowel movement, GI motility, digestion and gut immunity; and reducing gut inflammation.