CLAIMS

1. A complex of a protein and a catalyst selected from metal catalysts, wherein

said protein is a protein that has a hydrophobic pocket within its three-dimensional structure, and

said complex accommodates said catalyst in said hydrophobic pocket so that said catalyst is not exposed or not substantially exposed to the hydrophilic environment;

said protein is a human serum albumin (HSA),

said hydrophobic pocket of human serum albumin is the albumin drug binding site I (drug site I),

said metal catalyst is bound to the said hydrophobic pocket via a ligand against human serum albumin, and

said ligand is coumarin.

2. The complex according to claim 1, wherein said metal catalyst is selected from the group consisting of a boron catalyst, a magnesium catalyst, an aluminum catalyst, a silicon catalyst, a calcium catalyst, a scandium catalyst, a titanium catalyst, a vanadium catalyst, a chromium catalyst, a manganese catalyst, an iron catalyst, a cobalt catalyst, a nickel catalyst, a copper catalyst, a zinc catalyst, an yttrium catalyst, a zirconium catalyst, a niobium catalyst, a molybdenum catalyst, a ruthenium catalyst, a rhodium catalyst, a palladium catalyst, a silver catalyst, an indium catalyst, a tin catalyst, a barium catalyst, a hafnium catalyst, a tungsten catalyst, a rhenium catalyst, an osmium catalyst, an iridium catalyst, a platinum catalyst, a gold catalyst, and a lanthanoid Lewis acid catalyst.

3. The complex according to claim 2, wherein said lanthanoid Lewis acid catalyst is selected from the group consisting of an ytterbium catalyst, a lanthanum catalyst, a cerium catalyst, a samarium catalyst, an europium catalyst, a gadolinium catalyst, a terbium catalyst, a thulium catalyst, and a lutetium catalyst.

4. The complex according to claim 1, wherein said metal catalyst is a ruthenium catalyst.

5. The complex according to claim 1, wherein said metal catalyst is bound to the said hydrophobic pocket via a linker bound to said ligand.

6. The complex according to claim 5, wherein said linker is an alkyl chain or a polyethylene glycol (PEG) chain having amino and carboxyl groups on both ends.

7. The complex according to claim 6, wherein said linker is C_1 - C_3 alkyl.

8. The complex according to any one of claim 1 to 7, wherein the surface of said protein is modified so as to interact with a target site in vivo.

9. The complex according to claim 8, wherein said modification is a modification by a sugar chain.

10. The complex according to any one of claim 1 to 7, wherein said protein further comprises a portion that interacts with a target site in vivo.

11. A composition comprising the complex according to any one of claim 1 to 10.

12. The composition according to claim 11, which is a pharmaceutical composition further comprising a pharmaceutically acceptable carrier.

13. The composition according to claim 12, which is to be used in combination with a prodrug that can be activated by said complex.

14. The composition according to claim 12, further comprising a prodrug that can be activated by said complex.

15. A pharmaceutical composition comprising a prodrug, wherein

said prodrug can be activated by the complex according to any one of claim 1 to 10, and

said pharmaceutical composition is to be used in combination with the complex according to any one of claim 1 to 10.

16. A combination medicine comprising

a first agent comprising the complex according to any one of claim 1 to 10, and

a second agent comprising a prodrug that can be activated by said complex.