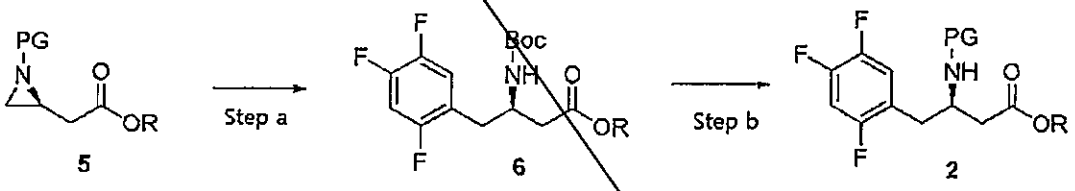
WHAT IS CLAIMED IS:

1. A method for manufacturing an intermediate of depeptidyl peptidase-IV inhibitor represented by Chemical Formula 2, as shown in the following Reaction Formula 1, the method comprising:

(Step a) preparing a compound represented by Chemical Formula 6 by ring-opening of aziridine ring using Grinard reagent in a compound represented by Chemical Formula 5; and

(Step b) preparing a compound represented by Chemical Formula 2 by introducing an amine-protecting group after hydrolyzing a compound represented by Chemical Formula 6,

[Reaction Formula 1]



(In the above Reaction Formula 1, PG is a protecting group, and R is a lower alkyl of C_1-C_5.).

2. The method as set forth in claim 1, wherein the amine-protecting group is butoxycarbonyl (Boc) or benzyloxycarbonyl (Cbz).

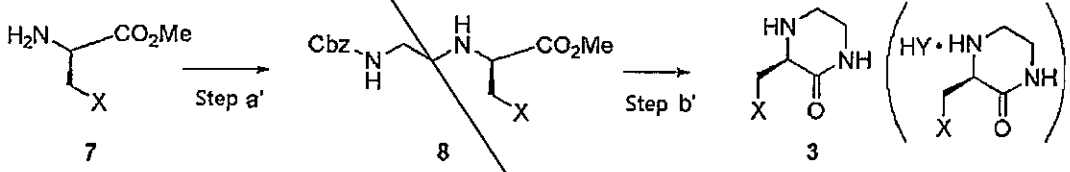
3. A method for manufacturing an intermediate of

dipeptidyl peptidase-IV inhibitor represented by Chemical Formula 3, as shown in the following Reaction Formula 2, the method comprising:

(Step a') preparing a compound represented by Chemical Formula 8 by reacting a compound represented by Chemical Formula 7 with an amine group-protected aminoaldehyde compound and an reduction reagent; and

(Step b') preparing a compound represented by Chemical Formula 3 or salt thereof by removing the amine-protecting group by triggering a hydrogen reaction in the compound represented by Chemical Formula 8, and inducing a cyclization,

[Reaction Formula 2]



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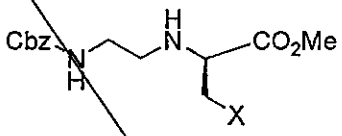
(In the above Reaction Formula 2, X is OR^1, SR^1 or NR^1R^2, where R^1 and R^2 are a lower alkyl of C_1-C_5, respectively; in the case of NR^1R^2, R^1 and R^2 may be 5-membered ring to 7-membered ring containing hetero atom, O; and HY is a free acid.).

4. The method as set forth in claim 3, wherein the hydrogen reaction uses palladium/carbon.

5. An intermediate represented by the following Chemical

Formula 8 produced when producing the compound represented by Chemical Formula 3 as set forth in claim 3:

[Chemical Formula 8]



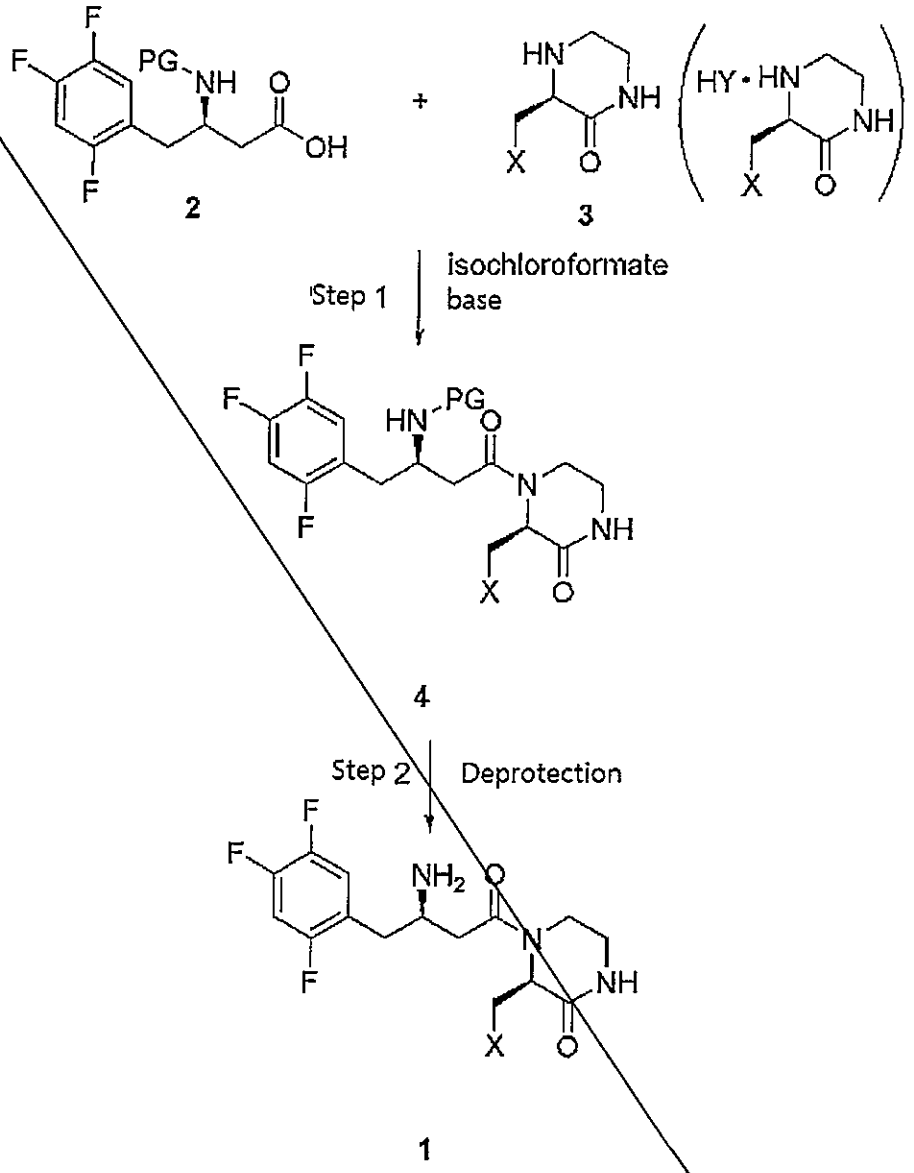
(In the above Chemical Formula 8, X is the same as defined in Reaction Formula 2 as set forth in claim 3.)

6. An improved method for manufacturing dipeptidyl peptidase-IV inhibitor represented by Chemical Formula 1, as shown in the following Reaction Formula 3, the method comprising:

(Step 1) preparing a compound represented by Chemical Formula 4 by bonding a compound represented by Chemical Formula 2 and a compound represented by Chemical Formula 3 with peptide bond by reacting them using isochloroformate and a base in the presence of a reaction solvent; and

(Step 2) preparing a compound represented by Chemical Formula 1 by removing an amine-protecting group of the compound represented by Chemical Formula 4 produced in the above Step 1,

[Reaction Formula 3]



(In the above Reaction Formula 3, PG is a protecting group; and X and HY are as defined in Reaction Formula 2 as set forth in claim 3.)

7. The improved method as set forth in claim 6, wherein

the reaction solvent is selected from the group consisting of toluene, tetrahydrofuran, methylene chloride, acetonitrile, and N,N-dimethylformamide.

8. The improved method as set forth in claim 6, wherein the base is more than one selected from the group consisting of N-methyl morpholine, isopropylethylamine, triethylamine, and pyridine.

9. The improved method as set forth in claim 6, wherein the reaction of the above Step 1 is performed at -20 ℃ to room temperature.

10. The improved method as set forth in claim 6, wherein the amine-protecting group is butoxycarbonyl (Boc) or benzyloxycarbonyl (Cbz).

11. The improved method as set forth in claim 6, wherein in the Step 2, when the amine-protecting group is butoxycarbonyl (Boc), the amine-protecting group is removed by reacting the compound represented by Chemical Formula 4 with trifluoroacetic acid/dichloromethane, ethyl acetate/hydrogen chloride, diethylether/hydrogen chloride, hydrogen chloride/dichloromethane or methanol/hydrogen chloride.

12. The improved method as set forth in claim 6, wherein in the Step 2, when the amine-protecting group is benzyloxycarbonyl (Cbz), the amine-protecting group is removed by reacting the compound represented by Chemical Formula 4 with hydrogen in the presence of palladium/carbon.

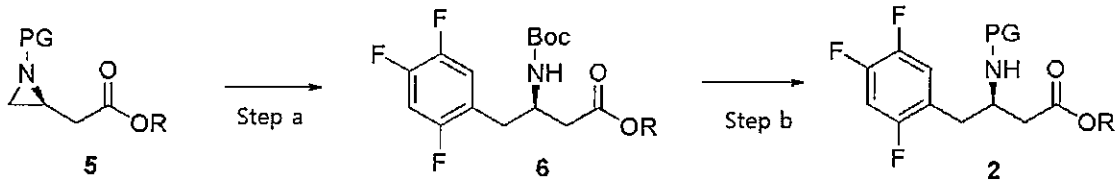
What is Claimed is:

1. A method for manufacturing an intermediate of depeptidyl peptidase-IV inhibitor represented by Chemical Formula 2, as shown in the following Reaction Formula 1, the method comprising:

(Step a) preparing a compound represented by Chemical Formula 6 by ring-opening of aziridine ring using Grinard reagent in a compound represented by Chemical Formula 5; and

(Step b) preparing a compound represented by Chemical Formula 2 by introducing an amine-protecting group after hydrolyzing a compound represented by Chemical Formula 6,

[Reaction Formula 1]



(In the above Reaction Formula 1, PG is a protecting group, and R is a lower alkyl of C_1-C_5.).

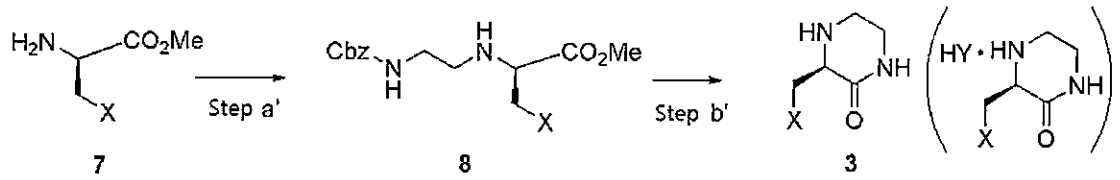
2. The method as set forth in claim 1, wherein the amine-protecting group is butoxycarbonyl (Boc) or benzyloxycarbonyl (Cbz).

3. A method for manufacturing an intermediate of dipeptidyl peptidase-IV inhibitor represented by Chemical Formula 3, as shown in the following Reaction Formula 2, the method comprising:

(Step a') preparing a compound represented by Chemical Formula 8 by reacting a compound represented by Chemical Formula 7 with an amine group-protected aminoaldehyde compound and an reduction reagent; and

(Step b') preparing a compound represented by Chemical Formula 3 or salt thereof by removing the amine-protecting group by triggering a hydrogen reaction in the compound represented by Chemical Formula 8, and inducing a cyclization,

[Reaction Formula 2]



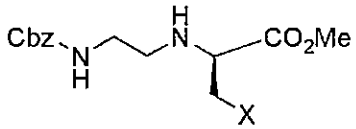
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(In the above Reaction Formula 2, X is OR^1, SR^1 or NR^1R^2, where R^1 and R^2 are a lower alkyl of C_1-C_5, respectively; in the case of NR^1R^2, R^1 and R^2 may be 5-membered ring to 7-membered ring containing hetero atom, O; and HY is a free acid, **where the free acid is inorganic acid selected from the group consisting of hydrochloric acid, bromic acid, sulfuric acid and phosphoric acid, or organic acid selected from the group consisting of di-p-toluoyl-L-tartrate, citric acid, acetic acid, lactic acid, maleic acid, fumaric acid, gluconate, methanesulfonic acid, acetic acid, glycolic acid, succinic acid, tartaric acid, 4-toluene sulfonic acid, glacturonic acid, embonic acid, glutamic acid and aspartic acid**).

4. The method as set forth in claim 3, wherein the hydrogen reaction uses palladium/carbon.

5. An intermediate represented by the following Chemical Formula 8 produced when producing the compound represented by Chemical Formula 3 as set forth in claim 3:

[Chemical Formula 8]



(In the above Chemical Formula 8, X is the same as defined in Reaction Formula 2 as set forth in claim 3.)

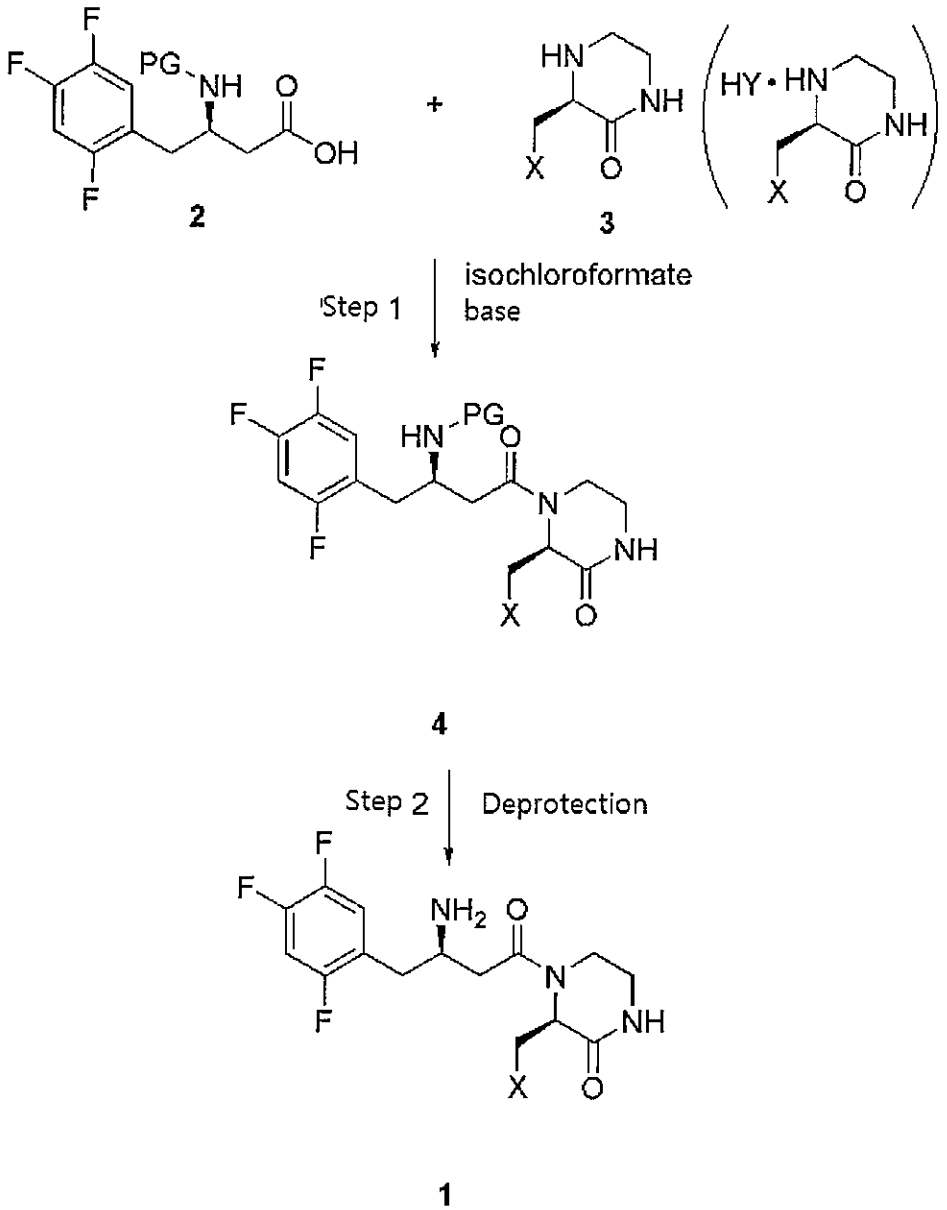
6. An improved method for manufacturing dipeptidyl peptidase-IV inhibitor represented by Chemical Formula 1, as shown in the following Reaction Formula 3, the method comprising:

(Step 1) preparing a compound represented by Chemical Formula 4 by bonding a compound represented by Chemical Formula 2 and a compound represented by Chemical Formula 3 with peptide bond by reacting them using isochloroformate and a base in the presence of a reaction solvent; and

(Step 2) preparing a compound represented by Chemical Formula 1 by removing an amine-protecting group of the compound represented by Chemical Formula 4 produced

in the above Step 1,

[Reaction Formula 3]



(In the above Reaction Formula 3, PG is a protecting group; and X and HY are as defined in Reaction Formula 2 as set forth in claim 3.)

7. The improved method as set forth in claim 6, wherein the reaction solvent is selected from the group consisting of toluene, tetrahydrofuran, methylene chloride, acetonitrile, and N,N-dimethylformamide.

8. The improved method as set forth in claim 6, wherein the base is more than one selected from the group consisting of N-methyl morpholine, isopropylethylamine,

triethylamine, and pyridine.

9. The improved method as set forth in claim 6, wherein the reaction of the above Step 1 is performed at -20 ℃ to room temperature.

10. The improved method as set forth in claim 6, wherein the amine-protecting group is butoxycarbonyl (Boc) or benzyloxycarbonyl (Cbz).

11. The improved method as set forth in claim 6, wherein in the Step 2, when the amine-protecting group is butoxycarbonyl (Boc), the amine-protecting group is removed by reacting the compound represented by Chemical Formula 4 with trifluoroacetic acid/dichloromethane, ethyl acetate/hydrogen chloride, diethylether/hydrogen chloride, hydrogen chloride/dichloromethane or methanol/hydrogen chloride.

12. The improved method as set forth in claim 6, wherein in the Step 2, when the amine-protecting group is benzyloxycarbonyl (Cbz), the amine-protecting group is removed by reacting the compound represented by Chemical Formula 4 with hydrogen in the presence of palladium/carbon.