

## REIVINDICACIONES MODIFICADAS

1. Una variante de un polipéptido parental que tiene actividad alfa-amilasa, en donde dicha variante es un polipéptido de fusión que tiene un rendimiento de lavado mejorado a baja temperatura y en donde dicha variante tiene actividad alfa-amilasa, y en donde dicho polipéptido parental comprende un dominio A y uno B que comprende la secuencia de aminoácidos SEQ ID NO: 10 y un dominio C de una alfa amilasa de baja temperatura.

2. La variante de acuerdo con la reivindicación 1, en donde dicha baja temperatura es de 5°C a 40°C, preferentemente de 10°C a 30°C, aún más preferentemente de 15°C a 20°C.

3. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicho rendimiento de lavado mejorado tiene un factor de mejora (IF) de  $\geq 1$  cuando se compara con dicho polipéptido parental que tiene actividad alfa-amilasa.

4. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicho polipéptido parental comprende un dominio C que comprende la secuencia de aminoácidos de las SEQ ID NO: 11 o 12.

5. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicho polipéptido parental comprende la secuencia de aminoácidos de las SEQ ID NO: 13 o 14.

6. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicha variante comprende una secuencia de aminoácidos con una cualquiera de las SEQ ID NO: 4, 7, 13, 14 o 15.

7. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dichos dominios A y B comprenden una modificación en una o más de las siguientes posiciones correspondientes a las posiciones; H1, T5, G7, Q11, N16, V17, Q32, A37, T40, P45, W48, G50, T51, N54, V56, A60, K72, R87, Q98, M105, G109, F113, R116, Q118, Q125, G133, T134, W140, G142, G149, T165, W167, Q169, R171, Q172, L173, A174, G184, A186, E190, T193, N195, G196, A204, V206, P211, I214, V215, L217, L219, A225, L228, L235, V238, K242, S244, M246, M248, L250, G255, Q256, N260, A263, V264, A265, Y267, K269, N270, G273, S280, W284, T285, M286, F289, V291, Y295, Q299, S304, R320, H321, S323, H324, V326, F328, T334, D337, Q345, G346, G348, T355, S376, D377, D379, Y382, S383, Q385, K391, K393, y Q395 de las SEQ ID NO: 7 o 10.

8. La variante de acuerdo con la reivindicación 6, en donde dicha modificación en una o más posiciones corresponden a las siguientes; H1\*, T5K, G7K, G7A, Q11H, N16S, N16H, V17L, Q32S, A37H, A37M, A37V, A37S, A37Y, A37R, A37L, T40D, T40G, T40K, P45A, W48G, W48Y, W48F, G50A, T51K, T51E, T51G, T51A, T51S, T51G, T51D, N54S, V56T, A60V, K72R, K72H, K72S, K72Q, K72E, K72N, K72A, K72M, R87S, Q98S, Q98A, M105F, M105I, M105V, M105L, G109A, G109S, F113W, F113S, F113N, F113Y, F113R, F113L, F113Q, R116Q, R116V, R116K, R116W, R116L, R116A, R116H, R116M, R116E, R116S, R116I, R116G, Q118N, Q118K, Q118G, Q118S, Q118F, Q118R, Q125P, Q125K, Q125A, Q125T, N125D, G133S, F133Q, T134E, W140Y, G142T, G149Q, T165S, T165G, T165V, W167I, W167G, W167F, W167R, W167S, W167H, W167L, W167M, W167Y, Q169E, R171H, Q172G, Q172R, Q172N, Q172D, Q172Y, Q172M, Q172S, Q172T, Q172K, Q172H, Q172E, L173V, L173G, L173H, L173A, L173I, L173P, L173T, L173F, L173M, A174S, A174D, A174P, A174M, A174T, A174H, A174K, A174G, A174Q, A174N, A174V, A174L, G184T, A186D, A186N, A186E, A186Q, A186H, E190P, T193K, N195F, G196R, A204T, A204V, A204S, A204G,

V206L, V206S, V206Y, P211D, I214G, I214H, I214S, I214T, I214L, I214E, I214W, V215T, L217T, L217Q, L219V, L219H, A225V, L228I, L235V, L235A, V238A, V238T, V238G, K242Q, S244Q, M246L, M246A, M246I, M246F, M246V, M246S, M248T, L250I, L250V, L250T, L250A, L250F, L250M, G255N, G255A, G255S, Q256A, N260G, A263G, V264I, V264T, A265G, Y267I, Y267M, Y267H, Y267L, K269Q, N270G, N270T, G273R, S280W, S280L, S280T, S280A, S280K, S280Q, W284H, T285L, T285Q, M286F, M286L, A288L, A288V, F289I, F289L, V291G, V291A, V291T, Y295N, Y295F, Q299V, S304N, S304R, R320A, R320V, H321Y, S323N, H324L, V326L, F328L, F328M, F328V, F328I, T334S, D337H, Q345D, G346T, G346D, G346P, G348S, G348P, T355L, T355F, S376H, S376T, S376V, D377H, D377S, D377A, D377Q, D379S, D379G, D379R, D379A, Y382M, Y382I, Y382L, Y382F, S383G, S383A, Q385L, K391A, K391Y, K391V, K391M, K391E, K391D, K391R, K391H, K391W, K391I, K391Q, K391L, K393Y, K393R, K393Q, K393S, y Q395P, en donde dichas posiciones corresponden a posiciones de las SEQ ID NO: 7 o 10.

9. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicho dominio C comprende una alteración en una o más de las siguientes posiciones correspondientes a las posiciones; A420, G423, T444, A445, Q449, T459, P473, C474, G476, G477, y K484 de la SEQ ID NO: 13 o I405, A421, A422, A428, R439, G448, W467, D476, y G477 de la SEQ ID NO: 14.

10. La variante de acuerdo con la reivindicación 8, en donde dicha alteración en una o más posiciones corresponde a las siguientes T400P, H402R, A420Q, A420S, A420K, A420L, G423H, T444Q, T444S, T444D, T444Y, T444H, T444V, T444R, T444A, A445Q, Q449T, T459N, P473R, P473A, P473G, P473T, P473K, C474V, G476K, G477A, G477Q, K484A, K484G, K484P, K484E, K484Q, y K484S, en donde dichas posiciones corresponden a posiciones de la SEQ ID NO: 13; o I405L, A421H, A422P, A428T, G448D, D476K, D476G,

D476N, D476Y, G477S, G477A, G477T y G477Q, en donde dichas posiciones corresponden a posiciones de la SEQ ID NO: 14.

11. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicha variante comprende

a) una eliminación y/o una sustitución en dos o más posiciones correspondientes a las posiciones R181, G182, D183 y G184 de la secuencia de aminoácidos expuesta en las SEQ ID NO: 7 o 10 y

b) una alteración en una o más posiciones correspondientes a las posiciones H1, T5, G7, Q11, N16, V17, Q32, A37, T40, P45, W48, G50, T51, N54, V56, K72, R87, Q98, M105, G109, F113, R116, Q118, Q125, G133, T134, W140, G142, G149, T165, W167, Q169, R171, Q172, L173, A174, G184, A186, E190, T193, N195, A204, V206, P211, I214, V215, L217, L219, A225, L235, V238, K242, S244, M246, M248, L250, G255, Q256, N260, A263, V264, Y267, K269, N270, G273, S280, W284, T285, M286, F289, V291, Y295, Q299, R320, H321, S323, H324, V326, F328, T334, D337, Q345, G346, G348, T355, S376, D377, D379, Y382, S383, Q385, K391, K393, Q395, A420, G423, T444, A445, Q449, T459, P473, C474, G476, G477, y K484 de la SEQ ID NO: 13; o H1, A37, T40, N54, V56, A60, K72, G109, F113, R116, N125, F133, T134, T165, Q169, Q172, L173, A174, G184, A186, N195, G196, A204, V206, A225, L228, K242, S244, G255, N260, A265, K269, S280, W284, Y295, S304, R320, H321, S323, V326, K391, I405, A421, A422, A428, R439, G448, W467, D476, y G477 de la SEQ ID NO: 14.

12. La variante de acuerdo con la reivindicación 10, en donde la eliminación a) se selecciona del grupo que consiste en R181+G182, R181+D183, R181+G184, G182+D183, G182+G184 o D183+G184.

13. La variante de acuerdo con una cualquiera de las reivindicaciones 10 o 11, en donde dicha variante comprende una o más de las siguientes alteraciones; H1\*, T5K, G7K, G7A,

Q11H, N16S, N16H, V17L, Q32S, A37H, A37M, A37V, A37S, A37Y,  
A37R, A37L, T40G, T40K, P45A, W48G, W48Y, W48F, G50A, T51K,  
T51E, T51G, T51A, T51S, T51G, T51D, N54S, V56T, K72R, K72H,  
K72S, K72Q, K72E, K72N, K72A, K72M, R87S, Q98S, Q98A, M105F,  
M105I, M105V, M105L, G109A, G109S, F113W, F113S, F113N, F113Y,  
F113R, F113L, F113Q, R116Q, R116V, R116K, R116W, R116L, R116A,  
R116H, R116M, R116E, R116S, R116I, R116G, Q118N, Q118K, Q118G,  
Q118S, Q118F, Q118R, Q125P, Q125K, Q125A, Q125T, G133S, T134E,  
W140Y, G142T, G149Q, T165S, T165G, T165V, W167I, W167G, W167F,  
W167R, W167S, W167H, W167L, W167M, W167Y, Q169E, R171H, Q172G,  
Q172R, Q172N, Q172D, Q172Y, Q172M, Q172S, Q172T, Q172K, Q172H,  
Q172E, L173V, L173G, L173H, L173A, L173I, L173P, L173T, L173F,  
L173M, A174S, A174D, A174P, A174M, A174T, A174H, A174K, A174G,  
A174Q, A174N, A174V, A174L, G184T, A186D, A186N, A186E, A186Q,  
A186H, E190P, T193K, N195F, A204T, A204V, A204S, A204G, V206L,  
V206S, V206Y, P211D, I214G, I214H, I214S, I214T, I214L, I214E,  
I214W, V215T, L217T, L217Q, L219V, L219H, A225V, L235V, L235A,  
V238A, V238T, V238G, K242Q, S244Q, M246L, M246A, M246I, M246F,  
M246V, M246S, M248T, L250I, L250V, L250T, L250A, L250F, L250M,  
G255N, G255A, G255S, Q256A, N260G, A263G, V264I, V264T, Y267I,  
Y267M, Y267H, Y267L, K269Q, N270G, N270T, G273R, S280W, S280L,  
S280T, S280A, S280K, S280Q, W284H, T285L, T285Q, M286F, M286L,  
A288L, A288V, F289I, F289L, V291G, V291A, V291T, Y295N, Y295F,  
Q299V, S340R, S304N, R320A, R320V, H321Y, S323N, H324L, V326L,  
F328L, F328M, F328V, F328I, T334S, D337H, Q345D, G346T, G346D,  
G346P, G348S, G348P, T355L, T355F, S376H, S376T, S376V, D377H,  
D377S, D377A, D377Q, D379S, D379G, D379R, D379A, Y382M, Y382I,  
Y382L, Y382F, S383G, S383A, Q385L, K391A, K391Y, K391V, K391M,  
K391E, K391D, K391R, K391H, K391W, K391I, K391Q, K391L, K393Y,  
K393R, K393Q, K393S, Q395P, T400P, H402R, A420Q, A420S, A420K,  
A420L, G423H, T444Q, T444S, T444D, T444Y, T444H, T444V, T444R,  
T444A, A445Q, Q449T, T459N, P473R, P473A, P473G, P473T, P473K,

C474V, G476K, G477A, G477Q, K484A, K484G, K484P, K484E, K484Q, y K484S de la SEQ ID NO: 13; o H1\*, G7A, A37H, T40D, W48Y, W48F, N54S, V56T, A60V, K72R, Q98A, G109A, F113Q, R116H, R116V, R116Q, N125D, F133Q, T134E, T165G, Q169E, Q172D, Q172G, Q172N, L173V, A174S, G184T, A186D, A186N, A186E, A186Q, A186H, E190P, N195F, G196R, A204G, V206L, V206Y, A225V, L228I, K242Q. S244Q, G255A, G255S, N260G, A265G, K269Q, N270T, S280Q, W284H, A288L, A288V, F289L, Y295N, Y295F, S304N, S340R, S304N, R320A, H321Y, S323N, V326L, K391A, I405L, A421H, A422P, A428T, G448D, D476K, D476G, D476N, D476Y, G477S, G477A, G477T, y G477Q de la SEQ ID NO: 14.

14. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicha variante tiene un IF de >1 cuando se compara con dicho polipéptido parental y en donde dicha variante se selecciona entre

G182\*+D183\*+N195F  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+R87S+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+T40G+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+T51K+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+K72R+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+K72H+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37H+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37M+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37V+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37S+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37Y+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37R+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,

H1\*+N54S+V56T+G109A+F113W+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+F113S+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+F113N+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+F113Y+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+F113R+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q118N+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116Q+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116V+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116K+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116W+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116L+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+G142T+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q125P+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q125K+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+S381G+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+M246T+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+V213T+K39  
1A+G476K,  
H1\*+A37L+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,  
H1\*+N54S+V56T+G109A+Q118K+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116A+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116H+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q125A+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q172G+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,

H1\*+N54S+V56T+G109A+Q172R+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+D377S+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+D377G+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+D377R+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+D377A+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I214G+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+S381A+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+W167I+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+W167G+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+G346S+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+G346P+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I214H+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I214S+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I214T+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+A42  
0Q+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+A42  
0S+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+A42  
0K+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+A42  
0L+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+K39  
1Y+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+K39  
1R+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+P47  
3R+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+P47  
3A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+P47  
3G+G476K,

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+P47  
3T+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+Q39  
5P+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+T44  
4Q+G476K,  
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4S+G476K,  
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4D+G476K,  
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A+G476K,  
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T+K391A+  
G476K,  
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G476K,  
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6K+K484A,  
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K391A+G476K,  
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G476K,  
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1A+G476K,  
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K391A+G476K,  
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G476K,  
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H1\*+N54S+V56T+K72R+G109A+F113Q+T134E+A174S+G182\*+D183\*+N195  
F+V206L+  
G255A+K391A+P473R+G476K,  
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F+V206L+  
K391A+G476K,  
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F+V206L+  
K391A+G476K,  
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F+V206L+  
M246F+K391A+G476K,  
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T+N195F+  
V206L+K391A+T444Q+G476K,  
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1A+T444Q+  
G476K,  
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2\*+D183\*+  
N195F+V206L+K391A+P473R+G476K,  
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5F+V206L+  
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 R116Q+D183\*+G182\*,  
 D183\*+G182\*+N195F+V291A,  
 Q172K+D183\*+G182\*,  
 N54S+D183\*+G182\*,  
 D183\*+G182\*+N195F+S323N,  
 D183\*+G182\*+N195F+M246V,  
 W48Y+D183\*+G182\*+N195F,  
 D183\*+G182\*+N195F+S304R,  
 V56T+D183\*+G182\*,  
 en donde la numeración es acorde con la SEQ ID NO: 13; y  
 N54S+G182\*+D183\*+N195F,  
 G109A+G182\*+D183\*+N195F,  
 G182\*+D183\*+N195F+K391A,  
 G182\*+D183\*+N195F+G476K,  
 H1\*+G182\*+D183\*+N195F,  
 N54S+G182\*+D183\*+N195F,  
 V56T+G182\*+D183\*+N195F,  
 G182\*+D183\*+N195F+I405L,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I405L+A42  
 1H+A422P+  
 A428T+D476K,  
 A174S+G182\*+D183\*+N195F,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I405L+A42  
 1H+A422P+  
 A428T,  
 H1\*+N54S+V56T+G109A+A174S+D183\*+N195F+V206L+K391A+I405L+A42  
 1H+A422P+  
 A428T,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
 5L+A421H+  
 A422P+A428T+D476K,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
 5L+A421H+  
 A422P+A428T+D476G,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
 5L+A421H+  
 A422P+A428T+D476K+G477S,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
 5L+A421H+  
 A422P+A428T+D476K,  
 H1\*+N54S+V56T+K72R+G109A+W167F+A174S+G182\*+D183\*+N195F+V206  
 L+I405L+A421H+A422P+A428T,

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+S304N+I40  
5L+A421H+  
A422P+A428T+D476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
5L+A421H+  
A422P+A428T+D476K+G477A,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
5L+A421H+  
A422P+A428T+D476G+G477T,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
5L+A421H+  
A422P+A428T+G477Q,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
5L+A421H+  
A422P+A428T+G477A,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
5L+A421H+  
A422P+A428T+D476K+G477Q,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
5L+A421H+  
A422P+A428T+D476N,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+I40  
5L+A421H+  
A422P+A428T+D476Y,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206I+I405L+A42  
1H+A422P+A428T,  
H1\*+N54S+V56T+G109A+Q172D+A174S+G182\*+D183\*+N195F+A204G+V20  
6L+I405L+  
A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+T134E+A174S+G182\*+D183\*+N195F+A204  
G+V206L+  
G255A+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+R116H+T165G+Q172G+A174S+G182\*+D18  
3\*+N195F+  
V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+Q172N+A174S+G182\*+D183\*+N195F+V20  
6L+I405L+  
A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+T134E+A174S+G182\*+D183\*+N195F+G196  
R+V206L+  
G255A+I405L+A421H+A422P+A428T+N475S,  
H1\*+N54S+V56T+G109A+T134E+A174S+G182\*+D183\*+N195F+V206L+I40  
5L+A421H+  
A422P+A428T,  
H1\*+T40D+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I405  
L+A421H+A422P+A428T,

H1\*+N54S+V56T+G109A+F113Q+N125D+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+A60V+G109A+R116Q+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+R116V+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+R116Q+G133Q+T165G+Q172G+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+R116H+Q172G+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+R116Q+Q172G+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T+G448D,  
H1\*+N54S+V56T+G109A+F113Q+R116H+Q172N+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+T134E+W167F+Q172N+A174S+G182\*+D183\*+N195F+V206L+G255A+A265G+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+R116Q+W167F+Q172R+L173V+A174S+G182\*+D183\*+N195F+V206L+A265G+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+R116Q+W167F+Q172R+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+F113Q+T134E+W167F+Q172G+A174S+G182\*+D183\*+N195F+V206L+G255A+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+F113Q+R116H+W167F+Q172G+L173V+A174S+G182\*+D183\*+G184T+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+W167F+Q172G+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+A174S+G182\*+D183\*+N195F+V206L+G255A+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+R116Q+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+F113Q+F116H+W167F+Q172G+L173V+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,

H1\*+N54S+V56T+K72R+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182\*+D183\*+  
 G184T+N195F+V206L+I405L+A421H+A422P+A428T,  
 H1\*+N54S+V56T+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182\*+D183\*+N195F+  
 A204G+V206L+I405L+A421H+A422P+A428T,  
 H1\*+N54S+V56T+G109A+F113Q+R116H+W167F+Q172G+A174S+G182\*+D183\*+N195F+  
 V206L+A265G+I405L+A421H+A422P+A428T,  
 H1\*+N54S+V56T+G109A+R116Q+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+  
 A422P+A428T,  
 H1\*+N54S+V56T+A60V+G109A+R116Q+W167F+Q172N+L173V+A174S+G182\*+D183\*+  
 N195F+V206L+I405L+A421H+A422P+A428T,  
 H1\*+A37H+N54S+V56T+A60V+G109A+R116Q+T165G+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
 H1\*+N54S+V56T+G109A+A174S+M105F+G182\*+D183\*+N195F+V206L+L228I+R320A+  
 S323N+I405L+A421H+A422P+A428T,  
 H1\*+N54S+V56T+K72R+G109A+F113Q+T134E+A174S+G182\*+D183\*+N195F+V206L+  
 G255A+I405L+A421H+A422P+A428T,  
 H1\*+N54S+V56T+K72R+G109A+R116Q+V120L+A174S+G182\*+D183\*+G184T+N195F+  
 V206L+I405L+A421H+A422P+A428T,  
 H1\*+N54S+V56T+G109A+F113Q+R116H+W167F+Q172G+L173V+A174S+G182\*+D183\*+  
 N195F+V206L+I405L+A421H+A422P+A428T,  
 H1\*+N54S+V56T+G109A+F113Q+R116Q+Q172N+A174S+G182\*+D183\*+N195F+V206L+  
 A265G+I405L+A421H+A422P+A428T  
 H1\*+A37H+N54S+V56T+A60V+G109A+R116Q+W167F+Q172R+A174S+G182\*+D183\*+  
 N195F+V206L+I405L+A421H+A422P+A428T, en donde la numeración es acorde con la SEQ ID NO: 14.

15. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicha variante se selecciona entre el grupo que consiste en;

G182\*+D183\*+N195F+V206F+N260P+L312I+L313I+R320A+T355L+L389I+T400P

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K

H1\*+G50A+T51A+V56T+G109A+A174S+G182\*  
+D183\*+N195F+V206L+G476K  
H1\*+N54S+V56T+M105F+G109A+A174S+G182\*+D183\*+N195F+V206L+  
R320A+S323N+  
K391A+G476K  
H1\*+T40K+N54S+V56T+G109A+G149H+A174S+G182\*+D183\*+N195F+V2  
206L+K391A+  
G476K  
H1\*+N54S+V56T+K72R+G109A+A174S+G182\*+D183\*+N195F+V206L+G  
255A+K391A+  
G476K  
H1\*+N16H+V17L+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V2  
06L+K391A+G476K  
H1\*+Q22N+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K  
391A+G476K  
H1\*+Q32S+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K  
391A+G476K  
H1\*+H28N+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K  
391A+G476K  
H1\*+N29S+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K  
391A+G476K  
H1\*+H28N+N29S+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V2  
06L+K391A+G476K  
H1\*+N54S+V56T+G109A+A174S+R176K+G182\*+D183\*+N195F+V206L+  
K391A+G476K  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+R176K+G182\*+D183\*+  
N195F+V206L+  
K391A+G476K  
H1\*+N54S+V56T+G109A+A174S+N175G+G182\*+D183\*+N195F+V206L+  
K391A+G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+V291A+  
Y295N+Q299T+

K391A+G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K269S+  
A274K+K391A+  
G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+L235I+  
K391A+G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+L235V+  
V238A+K391A+  
G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+Q365S+  
K391A+G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+  
H402R+G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+R320S+  
H321N+K391A+  
G476K  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+  
V206L+K391A+  
G476K  
H1\*+N54S+V56T+G109A+Q125S+A174S+G182\*+D183\*+N195F+V206L+  
K391A+G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+L235V+  
K391A+G476K  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+A265G+  
K391A+G476K  
H1\*+T51Q+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+Y203F+V  
206L+K391A+  
G476K  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+N175Q+G182\*+D183\*+  
N195F+V206L+  
K391A+G476K

H1\*+H28N+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K  
391A+G476K

H1\*+N54S+V56T+G109A+T134E+A174S+G182\*+D183\*+N195F+V206L+  
K391A+G476K

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+D377H+  
K391A+G476K

H1\*+G50A+T51A+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V2  
06L+K391A+G476K

H1\*+G7K+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K3  
91A+G476K

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+M202V+V206L+  
K391A+G476K

H1\*+N54S+V56T+M105F+G109A+A174S+G182\*+D183\*+N195F+V206L+  
M246F+K391A+

G476K

H1\*+N16H+V17L+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V2  
06L+D377H+K391A+G476K

H1\*+T51G+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+Y203G+V  
206L+K391A+

G476K

H1\*+T51G+N54S+V56T+G109A+G110N+A174S+G182\*+D183\*+N195F+V  
206L+K391A+

G476K

H1\*+N54S+V56T+G109A+Q125S+A174S+N175G+G182\*+D183\*+N195F+  
V206L+K391A+

G476K

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+A265G+  
V291A+F328L+

K391A+G476K

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+M246F+  
A265G+V291A+

F328L+Q365S+K391A+G476K

H1\*+N16Y+N54S+V56T+G109A+R116H+A174S+G182\*+D183\*+N195F+V  
206L+G337E+

D377H+K391A+G476K

H1\*+I9L+N54S+V56T+G109A+Q125S+V131T+A174\*+G182\*+D183\*+V2  
06L+Y267F+F289H+Q361E+K391A+G476K,

en donde la numeración es acorde con la SEQ ID NO:  
13 y en donde dicho IF se determina mediante el uso del  
detergente modelo A.

16. La variante de acuerdo con una cualquiera de las  
reivindicaciones anteriores, en donde dicha variante tiene un  
IF de al menos >1.5 cuando se compara con dicho polipéptido  
parental y en donde dicha variante se selecciona entre

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G47  
6K,

H1\*+N54S+V56T+R87S+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+T40G+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+T51K+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+N54S+V56T+K72R+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+N54S+V56T+K72H+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+A37H+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+A37M+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+A37V+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+A37S+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+A37Y+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+A37R+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,

H1\*+N54S+V56T+G109A+F113W+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,

H1\*+N54S+V56T+G109A+F113S+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,

H1\*+N54S+V56T+G109A+F113N+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+F113Y+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q118N+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116Q+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116V+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116K+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116W+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116L+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+G142T+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q125P+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q125K+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+S381G+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+M246T+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+V213T+K39  
1A+G476K,  
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6L+K391A+  
G476K,  
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G476K,  
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5F+V206L+  
K391A+G476K,  
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8L+K391A+  
G476K,

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F+V206L+  
K391A+G476K,  
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F+V206L+  
K391A+G476K,  
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F+V206L+  
M246F+K391A+G476K,  
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G476K,  
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S+G182\*+  
D183\*+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182  
\*+D183\*+  
G184T+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182\*+D18  
3\*+N195F+  
A204G+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+R116H+W167F+Q172G+A174S+G182\*+D18  
3\*+N195F+  
V206L+A265G+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+R116Q+A174S+G182\*+D183\*+N195F+V206L+I40  
5L+A421H+  
A422P+A428T,  
H1\*+A37H+N54S+V56T+A60V+G109A+R116Q+T165G+A174S+G182\*+D183\*  
+N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+F113Q+T134E+A174S+G182\*+D183\*+N195  
F+V206L+  
G255A+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+K72R+G109A+R116Q+V120L+A174S+G182\*+D183\*+G184  
T+N195F+  
V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+R116H+W167F+Q172G+L173V+A174S+G18  
2\*+D183\*+  
N195F+V206L+I405L+A421H+A422P+A428T,  
H1\*+N54S+V56T+G109A+F113Q+R116Q+Q172N+A174S+G182\*+D183\*+N19  
5F+V206L+  
A265G+I405L+A421H+A422P+A428T,  
H1\*+A37H+N54S+V56T+A60V+G109A+R116Q+W167F+Q172R+A174S+G182\*  
+D183\*+

N195F+V206L+I405L+A421H+A422P+A428T, en donde la numeración es acorde con la SEQ ID NO: 14 y en donde dicho IF se determina mediante el uso del detergente modelo A.

17. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicha variante tiene un IF de al menos >2.0 cuando se compara con dicho polipéptido parental y en donde dicha variante se selecciona entre

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+R87S+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+T40G+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+T51K+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+K72R+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+K72H+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37H+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37M+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37V+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37S+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37Y+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37R+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+F113W+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+F113S+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+F113N+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+R116Q+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+R116V+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+R116K+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,

H1\*+N54S+V56T+G109A+Q125P+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+S381G+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+M246T+K39  
1A+G476K,  
H1\*+A37L+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,  
H1\*+N54S+V56T+G109A+R116A+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+R116H+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q125A+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q172G+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q172R+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+D377S+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+D377A+K39  
1A+G476K,  
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1A+G476K,  
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1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I214H+K39  
1A+G476K,  
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1A+G476K,  
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0Q+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+A42  
0S+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+A42  
0K+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+A42  
0L+G476K,  
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1Y+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+P47  
3R+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+P47  
3A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+P47  
3G+G476K,

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+T44  
4D+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+T44  
4Y+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+S280W+K39  
1A+G476K,  
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1A+G476K,  
H1\*+N54S+V56T+K72S+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,  
H1\*+T40K+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+G346  
T+K391A+  
G476K,  
H1\*+G50A+N54S+V56T+G109A++Q172N+A174S+G182\*+D183\*+N195F+V20  
6L+K391A+  
G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G47  
6K+K484S,  
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6L+K391A+  
G476K,  
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6L+K391A+  
G476K,  
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1A+G476K,  
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F+V206L+  
K391A+G476K,  
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1A+G476K,  
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G476K,  
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G476K,  
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K391A+G476K,  
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K391A+G476K,  
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G477A,  
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K391A+G476K,  
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D377H+K391A+G476K,  
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G476K,  
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D377H+K391A+G476K,  
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G476K,  
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G476K,  
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G476K,  
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G476K,  
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G476K  
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 S+G182\*+  
 D183\*+N195F+V206L+G255A+K391A+Q395P+G476K,  
 H1\*+N54S+V56T+K72R+G109A+T134E+W167F+Q172N+A174S+G182\*+D183  
 \*+N195F+  
 V206L+G255A+A265G+K391A+T444Q+P473R+G476K,  
 H1\*+N54S+V56T+K72R+G109A+G133Q+W167F+Q172R+A174S+G182\*+D183  
 \*+N195F+  
 V206L+K391A+G476K,  
 H1\*+N54S+V56T+K72R+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182  
 \*+D183\*+  
 N195F+A204G+V206L+K391A+G476K,  
 H1\*+N54S+V56T+K72R+G109A+F113Q+R116Q+W167F+Q172N+L173V+A174  
 S+G182\*+  
 D183\*+G184T+N195F+V206L+K391A+T444Q+P473R+G476K,  
 H1\*+A37H+N54S+V56T+G109A+F113Q+W167F+Q172N+A174S+G182\*+D183  
 \*+N195F+  
 V206L+K391A+G476K,  
 H1\*+N54S+V56T+G109A+F113Q+W167F+Q172N+A174S+G182\*+D183\*+N19  
 5F+V206L+  
 K391A+T459N+G476K,  
 H1\*+N54S+V56T+G109A+F113Q+R116Q+A174S+G182\*+D183\*+N195F+V20  
 6L+K391A+  
 P473R+G476K,  
 H1\*+N54S+V56T+A60V+G109A+R116Q+W167F+Q172N+A174S+G182\*+D183  
 \*+N195F+  
 V206L+K391A+G476K,  
 H1\*+N54S+V56T+A60V+G109A+R116H+Q172R+L173V+A174S+G182\*+D183  
 \*+N195F+  
 V206L+K391A+G476K,  
 H1\*+A37V+N54S+V56T+A60V+G109A+R116Q+T165G+A174S+G182\*+D183\*  
 +N195F+V206L+K391A+G476K,

H1\*+A37H+N54S+V56T+A60V+G109A+R116Q+T165G+A174S+G182\*+D183\*  
 +N195F+V206L+K391A+G476K,  
 H1\*+N54S+V56T+A60V+G109A+R116Q+W167F+Q172G+L173V+A174S+G182  
 \*+D183\*+  
 N195F+V206L+K391A+G476K,  
 H1\*+N54S+V56T+A60V+G109A+R116Q+A174S+G182\*+D183\*+N195F+V206  
 L+K391A+  
 G476K,  
 H1\*+A37H+N54S+V56T+A60V+G109A+R116Q+W167F+Q172R+A174S+G182\*  
 +D183\*+  
 N195F+V206L+K391A+G476K,  
 H1\*+A37H+N54S+V56T+A60V+G109A+R116Q+W167F+Q172N+A174S+G182\*  
 +D183\*+  
 N195F+V206L+K391A+G476K,  
 H1\*+N54S+V56T+A60V+G109A+R116Q+T165G+A174S+G182\*+D183\*+N195  
 F+V206L+  
 K391A+T444Q+P473R+G476K,  
 H1\*+N54S+V56T+A60V+G109A+R116Q+A174S+G182\*+D183\*+N195F+V206  
 L+K391A+  
 T444Q+P473R+G476K,  
 H1\*+N54S+V56T+A60V+G109A+R116Q+W167F+Q172N+L173V+A174S+G182  
 \*+D183\*+  
 N195F+V206L+K391A+G476K,  
 H1\*+N54S+V56T+A60V+G109A+R116Q+W167F+Q172R+A174S+G182\*+D183  
 \*+N195F+  
 V206L+K391A+G476K,  
 H1\*+N54S+V56T+G109A+R116A+W167F+Q172R+A174S+G182\*+D183\*+N19  
 5F+A204G+  
 V206L+K391A+P473R+G476K,  
 H1\*+N54S+V56T+G109A+R116A+A174S+G182\*+D183\*+N195F+A204G+V20  
 6L+K391A+  
 P473R+G476K,  
 H1\*+N54S+V56T+G109A+R116A+T165G+A174S+G182\*+D183\*+N195F+V20  
 6L+K391A+  
 T444Q+P473R+G476K,  
 H1\*+N54S+V56T+G109A+G182\*+D183\*+N195F+K391A+G476K,  
 H1\*+N54S+V56T+G109A+G182\*+D183\*+N195F+V206L,  
 N54S+V56T+G109A+G182\*+D183\*+N195F,  
 N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
 H1\*+N54S+V56T+G109A+G182\*+D183\*+N195F+V206L+K391A+G476K,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+G476K,  
 H1\*+N54S+V56T+A174S+G182\*+D183\*+N195F+V206L+G273R+K391A+G47  
 6K,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L,  
 N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+K391A+G476K,

H1\*+N54S+V56T+G109A+F113Q+Q172M+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+K72R+G109A+F113Q+T134E+A174S+G182\*+D183\*+N195F+V206L+G255A+K391A+G476K,  
H1\*+N54S+V56T+K72R+G109A+F113Q+T134E+A174S+G182\*+D183\*+N195F+V206L+G255A+K391A+P473R+G476K,  
H1\*+N54S+V56T+K72R+G109A+R116Q+A174S+G182\*+D183\*+G184T+N195F+V206L+K391A+G476K,  
H1\*+A37V+N54S+V56T+G109A+R116A+T165G+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+A37V+N54S+V56T+G109A+R116Q+T165G+A174S+G182\*+D183\*+N195F+V206L+M246F+K391A+G476K,  
H1\*+V56A+G109A+A174S+G182\*+D183\*+N195F+V206L+G476K,  
H1\*+N54S+V56T+K72R+G109A+F113Q+R116H+A174S+G182\*+D183\*+G184T+N195F+V206L+K391A+T444Q+G476K,  
H1\*+N54S+V56T+G109S+F113Q+A174S+G182\*+D183\*+N195F+V206L+K391A+T444Q+G476K,  
H1\*+N54S+V56T+G109A+F113Q+R116H+W167F+Q172G+L173V+A174S+G182\*+D183\*+N195F+V206L+K391A+P473R+G476K,  
H1\*+N54S+V56T+G109A+F113Q+R116Q+Q172N+A174S+G182\*+D183\*+N195F+V206L+A265G+K391A+P473R+G476K,  
H1\*+N54S+V56T+G109A+F113Q+W167F+Q172N+A174S+G182\*+D183\*+N195F+A204G+V206L+K391A+P473R+G476K,  
H1\*+N54S+V56T+G109A+F113Q+R116H+W167F+Q172R+A174S+G182\*+D183\*+N195F+A204G+V206L+K391A+P473R+G476K,  
H1\*+N54S+V56T+G109A+R116A+A174S+G182\*+D183\*+N195F+V206L+K391A+T444Q+P473R+G476K,  
H1\*+N54S+V56T+G109A+R116H+Q172R+A174S+G182\*+D183\*+N195F+A204G+V206L+K391A+P473R+G476K,  
H1\*+A37V+N54S+V56T+G109A+R116Q+T165G+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,

H1\*+A37H+N54S+V56T+G109A+R116H+T165G+A174S+G182\*+D183\*+N195  
F+V206L+  
M246F+K391A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+K391A+G476K,  
H1\*+N54S+V56T+G109A+G133S+A174S+G182\*+D183\*+N195F+K391A+G47  
6H,  
H1\*+N54S+V56T+G109A+R116A+Q172N+L173V+A174S+G182\*+D183\*+N19  
5F+V206L+  
K391A+G476K,  
H1\*+A37V+N54S+V56T+G109A+R116H+T165G+A174S+G182\*+D183\*+N195  
F+V206L+  
K391A+G476K,  
H1\*+P45A+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+C474V+  
G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+P364A+K39  
1A+C474V+  
G476K,  
H1\*+N54S+V56T+G109A+Q118R+T134E+A174S+G182\*+D183\*+N195F+V20  
6L+K391A+  
G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+G184T+N195F+V206L+K39  
1A+G476K,  
H1\*+G50A+T51A+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L  
+K391A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+V264F+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+Y382L+K39  
1A+G476K,  
H1\*+G7K  
+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+G255A+Q25  
6A+K391A+  
G476K,  
H1\*+N54S+V56T+G109A+W167Y+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+W167H+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+T165V+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G47  
6K,  
H1\*+N54S+V56T+G109A+A174N+G182\*+D183\*+N195F+V206L+K391A+G47  
6K,  
H1\*+N54S+V56T+G109A+A174Q+G182\*+D183\*+N195F+V206L+K391A+G47  
6K,

H1\*+N16H+V17L+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L  
+Y382F+K391A+G476K,  
H1\*+Q32S+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+Q385  
L+K391A+  
G476K,  
H1\*+N54S+V56T+R87S+G109A+R171H+A174S+G182\*+D183\*+N195F+V206  
L+K391A+  
G476K,  
H1\*+N54S+V56T+G109A+R116H+Q169E+Q172K+A174\*+G182\*+D183\*+N19  
5F+V206L+  
K391A+G476K,  
H1\*+N54S+V56T+G109A+A174\*+G182\*+D183\*+N195F+V206L+K391A+G47  
6K,  
H1\*+K72R+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182\*+D183\*+G1  
84T+N195F+  
V206L+K391A+P473R+G476K,  
H1\*+N54S+V56T+K72R+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182  
\*+D183\*+  
G184T+N195F+V206L+P473R+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172G+A174\*+G182\*+D183\*+N195F+V20  
6L+K391A+  
G476K,  
H1\*+N54S+V56T+K72R+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182  
\*+D183\*+  
G184T+N195F+K391A+P473R+G476K,  
H1\*+N54S+V56T+G109A+R116W+Q169E+Q172K+A174\*+G182\*+D183\*+N19  
5F+V206L+  
K391A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V20  
6F+K391A+  
G476K,  
H1\*+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+N260G+K39  
1A+G476K,  
H1\*+N54S+V56T+K72R+G109A+A174S+G182\*+D183\*+N195F+V206L+K391  
A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+G184T+N19  
5F+V206L+  
K391A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V20  
6L+Y295N+  
K391A+G476K,  
H1\*+N54S+V56T+G109A+W167F+A174S+G182\*+D183\*+N195F+V206L+K39  
1A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+A186N+N19  
5F+V206L+  
K391A+G476K,

H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+A288V+  
K391A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+G255A+  
K391A+G476K,  
H1\*+N54S+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+W48F+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+  
K391A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+V291A+  
K391A+G476K,  
H1\*+N54S+V56T+G109A+F113Q+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+R320A+  
S323N+K391A+G476K,  
H1\*+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+K72R+G109A+F113Q+R116H+W167F+Q172G+A174S+G182\*+D183\*+  
G184T+N195F+V206L+K391A+P473R+G476K,  
H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+N270T+K391A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+N260G+  
K391A+G476K,  
H1\*+N54S+V56T+G109A+F113Q+R116H+A174S+G182\*+D183\*+N195F+V206L+K391A+  
G476K,  
H1\*+N54S+V56T+G109A+Q172G+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+A174S+A186D+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+A225V+  
K391A+G476K,  
H1\*+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+K391A+G476K,  
H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+G255S+  
K391A+G476K,

H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+K269Q+K391A+G476K,  
 H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+G255S+K391A+G476K,  
 H1\*+N54S+V56T+G109A+Q169E+Q172K+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K,; en donde la numeración es acorde con la SEQ ID NO: 13, y  
 H1\*+T40D+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+G109A+F113Q+N125D+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+G109A+F113Q+R116H+Q172N+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+K72R+G109A+T134E+W167F+Q172N+A174S+G182\*+D183\*+N195F+V206L+G255A+A265G+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+K72R+G109A+R116Q+W167F+Q172R+L173V+A174S+G182\*+D183\*+N195F+V206L+A265G+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+K72R+G109A+R116Q+W167F+Q172R+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+K72R+G109A+F113Q+T134E+W167F+Q172G+A174S+G182\*+D183\*+N195F+V206L+G255A+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+K72R+G109A+R116Q+V120L+A174S+G182\*+D183\*+G184T+N195F+V206L+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+G109A+F113Q+R116H+W167F+Q172G+L173V+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T  
 H1\*+N54S+V56T+G109A+F113Q+R116Q+Q172N+A174S+G182\*+D183\*+N195F+V206L+A265G+I405L+A421H+A422P+A428T  
 H1\*+A37H+N54S+V56T+A60V+G109A+R116Q+W167F+Q172R+A174S+G182\*+D183\*+N195F+V206L+I405L+A421H+A422P+A428T, en donde la numeración es acorde con la SEQ ID NO: 14 y en donde dicho IF se determina mediante el uso del detergente modelo A.

18. La variante de acuerdo con una cualquiera de las reivindicaciones anteriores, en donde dicha variante se selecciona entre un grupo que consiste en:

-

H1\*+N54S+V56T+G109A+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K

-

H1\*+N54S+V56T+G109A+Q169E+Q172K+A174\*+G182\*+D183\*+N195F+V206L+ K391A+G476K

-

H1\*+N54S+V56T+G109A+R116H+A174S+G182\*+D183\*+N195F+V206L+K391A+G476K

-

H1\*+N54S+V56T+G109A+R116Q+W167F+A174S+G182\*+D183\*+G184T+N195F+V206L+ K391A+G476K

-

H1\*+N54S+V56T+K72R+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182\*+D183\*+ N195F+V206L+K391A+G476K

-

H1\*+N54S+V56T+K72R+G109A+F113Q+R116Q+W167F+Q172G+A174S+G182\*+D183\*+  
G184T+N195F+V206L+K391A+P473R+G476K

-

H1\*+N54S+V56T+G109A+F113Q+R116Q+Q172N+A174S+G182\*+D183\*+N195F+V206L+  
A265G+K391A+P473R+G476K

-

H1\*+N54S+V56T+K72R+G109A+G133Q+W167F+Q172R+A174S+G182\*+D183\*+N195F+  
V206L+K391A+G476K

-

H1\*+N54S+V56T+K72R+G109A+R116H+T134E+W167F+Q172G+L173V+A174S+G182\*+  
D183\*+N195F+V206L+G255A+K391A+G476K, y

-

H1\*+N54S+V56T+K72R+G109A+R116H+T134E+W167F+Q172G+L173V+A174S+G182\*+  
D183\*+N195F+V206L+G255A+K391A+Q395P+T444Q+P473R+G476K  
en donde la numeración es acorde con la SEQ ID NO: 13.

19. Una composición que comprende una variante de acuerdo con una cualquiera de las reivindicaciones anteriores.

20. La composición de acuerdo con la reivindicación 19, en donde dicha composición comprende además al menos un componente activo adicional.

21. La composición de acuerdo con una cualquiera de las reivindicaciones 19 y 20, en donde dicho componente activo adicional es una enzima, tal como una proteasa, lipasa, celulasa, pectato liasa y mananasa.

22. Una composición líquida para el lavado de ropa o para el lavado de vajilla, que comprende la composición de acuerdo a cualquiera de las reivindicaciones 19 a 21, en donde la composición líquida para el lavado de ropa o para el lavado de vajillas es una composición de detergente líquido para lavavajillas automático (ADW) o una composición de detergente en dosis unitaria para ADW.

23. Una composición en polvo para el lavado de ropa o para el lavado de vajilla, que comprende la composición de acuerdo con una cualquiera de las reivindicaciones 19 a 21, en donde dicha composición en polvo para el lavado de ropa o para el lavado de vajilla, es una barra de jabón o una composición detergente para el lavado a mano de vajilla (HDW), o una composición de detergente en dosis unitaria para ADW.

24. La composición de acuerdo con cualquiera de las reivindicaciones 19 a 21 en donde dicha composición comprende además un tensioactivo, adyuvante, blanqueante y/o polímero.

25. Un polinucleótido que codifica la variante de acuerdo con una cualquiera de las reivindicaciones 1 a 18.

26. Una construcción de ácido nucleico que comprende el polinucleótido de acuerdo con la reivindicación 25.

27. Un vector de expresión que comprende el polinucleótido de acuerdo con la reivindicación 25.

28. Una célula hospedadora que comprende el polinucleótido de acuerdo con la reivindicación 25, la

construcción de ácido nucleico de acuerdo con la reivindicación 26 o el vector de expresión de acuerdo con la reivindicación 27.

29. Un método para producir una variante de alfa-amilasa que comprende:

a. cultivar la célula hospedadora de la reivindicación 28 en condiciones adecuadas para la expresión de dicha variante; y

b. recuperar dicha variante.

30. Un método para mejorar el rendimiento de lavado de un polipéptido parental que tiene la secuencia de aminoácidos de SEQ ID NO: 13 o 14, comprendiendo dicho método las etapas de:

a) una sustitución y/o eliminación de dos, tres o cuatro posiciones en la alfa-amilasa parental, correspondiendo dichas posiciones a las posiciones 181, G182, D183 y G184 del polipéptido maduro de SEQ ID NO: 4; y

b) una alteración en una o más posiciones correspondientes a las posiciones H1, T5, G7, Q11, N16, V17, Q32, A37, T40, P45, W48, G50, T51, N54, V56, K72, R87, Q98, M105, G109, F113, R116, Q118, Q125, G133, T134, W140, G142, G149, T165, W167, Q169, R171, Q172, L173, A174, G184, A186, E190, T193, N195, A204, V206, P211, I214, V215, L217, L219, A225, L235, V238, K242, S244, M246, M248, L250, G255, Q256, N260, A263, V264, Y267, K269, N270, G273, S280, W284, T285, M286, F289, V291, N295, Q299, R320, H321, S323, H324, V326, F328, T334, D337, Q345, G346, G348, T355, S376, D377, D379, Y382, S383, Q385, K391, K393, Q395, A420, G423, T444, A445, Q449, T459, P473, C474, G476, G477, y K484 de la SEQ ID NO: 13; o H1, A37, T40, N54, V56, A60, K72, G109, F113, R116, N125, F133, T134, T165, Q169, Q172, L173, A174, G184, A186, E190, N195, G196, A204, V206, A225, L228, K242, S244, G255, N260,

A265, K269, S280, W284, N295, S304, R320, H321, S323, V326, K391, I405, A421, A422, A428, G448, D476, y G477 de la SEQ ID NO: 14,

en donde dicha variante tiene actividad alfa-amilasa y un rendimiento de lavado mejorado en comparación con dicho polipéptido parental.

31. El método de acuerdo con la reivindicación 30, en donde dicha variante tiene al menos un 50%, tal como al menos un 60%, o al menos un 70%, o al menos un 80%, o al menos un 90%, o al menos un 100% de la actividad de dicho polipéptido parental que tiene la secuencia de aminoácidos de la SEQ ID NO: 7.

32. El método de acuerdo con una cualquiera de las reivindicaciones 30 y 31, en donde dicha actividad se determina de acuerdo con un ensayo de Phadebas.