Claims

1. A crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide.

2. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 1, wherein the crystalline form is the crystalline anhydrous form A1.

3. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 1, wherein the crystalline form is selected from the group consisting of the hydrate forms NF2, NF3, NF4 and NF12.

4. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 1, wherein the crystalline form is a co-crystal form selected from the group consisting of
   a) the mono fumaric acid co-crystal form A1,
   b) the hemi fumaric acid co-crystal form A2,
   c) the hemi fumaric acid co-crystal form NF1,
   d) the hemi fumaric acid co-crystal form NF2,
   e) the mono 3-hydroxybenzoic acid co-crystal form NF1,
   f) the mono 3-hydroxybenzoic acid co-crystal form NF2,
   g) the hemi tartaric acid co-crystal form NF1,
   h) the hemi tartaric acid co-crystal form NF2,
   i) the mono $_{D}$-malic acid co-crystal form NF1,
   j) the 1,5-naphthalenedisulfonic acid co-crystal form NF1, and
   k) the mono 3,4-dihydroxybenzoic acid co-crystal form NF1.

5. The crystalline anhydrous form A1 of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 2, wherein the crystalline anhydrous form A1 has the characteristic peaks:

No.	°2θ (Cu-Kα$_1$ radiation) ± 0.2°
1	7.8
2	9.5
3	10.6
4	11.6
5	12.2
6	15.4
7	16.5
8	18.6
9	19.9
10	20.2
11	21.5
12	22.4
13	23.2
14	23.9
15	24.6
16	25.5
17	28.1
18	28.5

6. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the mono fumaric acid co-crystal form A1, wherein the mono fumaric acid co-crystal form A1 has the characteristic peaks:

No.	°2θ (Cu-Kα$_1$ radiation) ± 0.2°
1	7.8

2	9.5
3	10.6
4	11.6
5	12.2
6	15.4
7	16.5
8	18.6
9	19.9
10	20.2
11	21.5
12	22.4
13	23.2
14	23.9
15	24.6
16	25.5
17	28.1
18	28.5

7. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the hemi fumaric acid co-crystal form A2, wherein the hemi fumaric acid co-crystal form A2 has the characteristic peaks:

No.	°2θ (Cu-Kα_1 radiation) ± 0.2°
1	6.6
2	9.7
3	11.5

4	13.4
5	14.1
6	14.7
7	16.5
8	18.0
9	18.5
10	19.4
11	20.0
12	21.4
13	22.9
14	24.1
15	26.8

8. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the hemi fumaric acid co-crystal form NF1, wherein the hemi fumaric acid co-crystal form NF1 has the characteristic peaks:

No.	°2θ (Cu-Kα_1 radiation) ± 0.2°
1	6.7
2	8.1
3	10.1
4	12.3
5	16.1
6	16.3
7	16.7
8	19.3

9	21.5
10	22.9
11	25.7

9. The Crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the hemi fumaric acid co-crystal form NF2, wherein the hemi fumaric acid co-crystal form NF2 has the characteristic peaks:

No.	°2θ (Cu-Kα_1 radiation) ± 0.2°
1	6.2
2	8.1
3	9.4
4	10.5
5	11.3
6	14.2
7	14.9
8	16.8
9	17.5
10	19.1
11	20.3
12	20.9
13	21.6
14	22.6
15	24.4
16	25.9

10. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the mono 3-hydroxybenzoic acid co-crystal form NF1, wherein the mono 3-hydroxybenzoic acid co-crystal form NF1 has the characteristic peaks:

No.	°2θ (Cu-Kα_1 radiation) ± 0.2°
1	7.3
2	10.6
3	13.9
4	14.5
5	16.1
6	16.6
7	17.4
8	18.1
9	18.7
10	19.4
11	20.0
12	20.8
13	21.3
14	23.1
15	23.5
16	25.1
17	25.7
18	27.2
19	28.1

11. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide

according to claim 4, wherein the crystalline form is the mono 3-hydroxybenzoic acid co-crystal form NF2, wherein the mono 3-hydroxybenzoic acid co-crystal form NF2 has the characteristic peaks:

No.	°2θ (Cu-Kα$_1$ radiation) ± 0.2°
1	8.1
2	8.5
3	10.0
4	12.6
5	14.0
6	15.7
7	16.8
8	19.6
9	20.4
10	20.9
11	22.9
12	23.6
13	29.5

12. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the mono 3,4-dihydroxybenzoic acid co-crystal form NF1, wherein the mono 3,4-dihydroxybenzoic acid co-crystal form NF1 has the characteristic peaks:

No.	°2θ (Cu-Kα$_1$ radiation) ± 0.2°
1	7.3
2	10.8
3	13.9

4	15.2
5	15.9
6	16.5
7	17.4
8	18.0
9	18.6
10	19.3
11	20.2
12	21.3
13	23.0
14	23.5
15	25.1
16	25.8
17	27.2
18	28.2
19	29.5

13. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the hemi tartaric acid co-crystal form NF1, wherein the hemi tartaric acid co-crystal form NF1 has the characteristic peaks:

No.	°2θ (Cu-Kα_1 radiation) ± 0.2°
1	11.2
2	16.0
3	17.0
4	18.5

5	19.6
6	20.4
7	23.3
8	24.2
9	27.9

14. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the hemi tartaric acid co-crystal form NF2, wherein the hemi tartaric acid co-crystal form NF2 has the characteristic peaks:

No.	°2θ (Cu-Kα_1 radiation) ± 0.4°
1	11.2
2	16.0
3	16.9
4	17.9
5	19.7
6	20.4
7	23.3
8	24.1
9	27.8

15. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the 1,5-naphthalenedisulfonic acid co-crystal form NF1, wherein the 1,5-naphthalenedisulfonic acid co-crystal form NF1 has the characteristic peaks:

No.	°2θ (Cu-Kα_1 radiation) ± 0.4°

1	6.5
2	8.4
3	10.1
4	10.4
5	12.0
6	13.1
7	14.8
8	15.3
9	16.9
10	17.7
11	18.2
12	18.6
13	19.4
14	20.3
15	21.0
16	21.8
17	22.2
18	22.8
19	25.0

16. The crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, wherein the crystalline form is the mono $_D$-malic acid co-crystal form NF1, wherein the mono $_D$-malic acid co-crystal form NF1 has the characteristic peaks:

No.	°2θ (Cu-Kα_1 radiation) ± 0.2°
1	17.0

2	19.6
3	20.4
4	21.6
5	23.4
6	28.1

17. (S)-7-Oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide containing or essentiallly consisting of one or more of the crystalline forms of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to any one of claims 1-16.

18. A method for the preparation of the crystalline form of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to claim 4, characterized in that (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide is suspended in an organic solvent at elevated temperature, the equivalent amount of a co-former is added and a cooling crystallization is carried out.

19. Use of one or more of the crystalline forms of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to any one of claims 1-16, or mixtures thereof in all ratios, in the preparation of a medicament for the treatment and/or prophylaxis of cancer.

20. Pharmaceutical preparation containg one or more of the crystalline forms of (S)-7-oxa-2-aza-spiro[4.5]decane-2-carboxylic acid [7-(3,6-dihydro2H-pyran-4-yl)-4-methoxy-thiazolo[4,5-c]pyridin-2-yl]-amide according to any one of claims 1-16, or mixtures thereof in all ratios, and optionally further excipients and/or adjuvants.