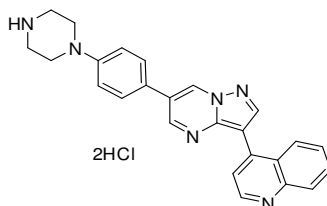




Certificate of Analysis

Axon Catalogue ID: 1509 **Batch Number:** 8
Product Name: LDN 193189 dihydrochloride
Alternative Name(s): DM 3189 dihydrochloride
IUPAC Name: 4-(6-(4-(Piperazin-1-yl)phenyl)pyrazolo[1,5-a]pyrimidin-3-yl)quinoline dihydrochloride

Structure:



Amount:

CAS number(s): 1062368-24-2 (parent), 1435934-00-1 (HCl (1:2))
Molecular Formula: C₂₅H₂₂N₆.2HCl **Molecular Weight:** 479.40
Batch Molecular Formula: C₂₅H₂₂N₆.2HCl.0.85H₂O **Batch Molecular Weight:** 494.72
Appearance: Orange solid **Observed mp:** 236 °C (decomp)
TLC (R_f): 0.6 DCM/MeOH/NH₃ (9:1:0.1)
Chemical Purity: 99.9%
Optical Purity (ee): N.A.
¹H-NMR (300 MHz): Analytical data confirm chemical structure
Mass Spec: Analytical data confirm chemical structure
Microanalysis: Calculated: C 60.69, H 5.24, N 16.99; Found: C 60.50, H 5.65, N 16.68
Storage Conditions: Store at +4 °C

| Solubility Data: | Solvent | Solubility (mg/ml) | Solubility (mM) | Remarks |
|------------------|----------------|--------------------|-----------------|------------|
| | Water | 38.0 | 76.8 | |
| | 0.1N NaOH (aq) | | | Not Tested |
| | 0.1N HCl (aq) | | | Not Tested |
| | DMSO | 17.0 | 34.4 | |
| | EtOH | | | Not Tested |

Remarks:

QC Date: 12-11-2020

The purity of Axon Ligands is confirmed by HPLC, MS, NMR and/or microanalysis. Analytical data are available upon request. Request can be submitted by e-mail to info@axonmedchem.com indicating Catalogue ID and Batch number.

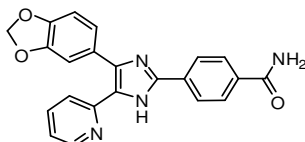
Caution: Not fully tested. For research purposes only



Certificate of Analysis

Axon Catalogue ID: 1661 **Batch Number:** 12
Product Name: SB 431542
Alternative Name(s): N.A.
IUPAC Name: 4-(4-(Benzo[d][1,3]dioxol-5-yl)-5-(pyridin-2-yl)-1H-imidazol-2-yl)benzamide

Structure:



Amount:

CAS number(s): 301836-41-9
Molecular Formula: C₂₂H₁₆N₄O₃ **Molecular Weight:** 384.39
Batch Molecular Formula: C₂₂H₁₆N₄O₃.H₂O **Batch Molecular Weight:** 402.40
Appearance: Off-white solid **Observed mp:** 144 - 146 °C
TLC (R_f): 0.48 DCM/MeOH/NH₃ (9:1:0.1)
Chemical Purity: 99.9%
¹H-NMR: Analytical data confirm chemical structure
Mass Spec: Analytical data confirm chemical structure
Microanalysis: Calculated: C 65.66, H 4.51, N 13.92; Found: C 65.85, H 4.50, N 13.91
Storage Conditions: Store at +4 °C

| Solvent | Solubility (mg/ml) | Solubility (mM) | Remarks |
|----------------|--------------------|-----------------|------------|
| Water | 0.0 | 0.0 | Insoluble |
| 0.1N NaOH (aq) | | | Not Tested |
| 0.1N HCl (aq) | | | Not Tested |
| DMSO | 40.2 | >100 mM | |
| EtOH | 32.0 | 79.5 | |

Remarks:

QC Date: 10-5-2022

The purity of Axon Ligands is confirmed by HPLC, MS, NMR and/or microanalysis. Analytical data are available upon request. Request can be submitted by e-mail to info@axonmedchem.com indicating Catalogue ID and Batch number.

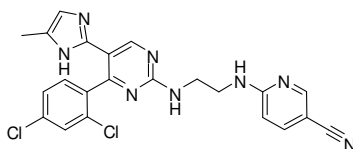
Caution: Not fully tested. For research purposes only



Certificate of Analysis

Axon Catalogue ID: 1386 **Batch Number:** 14
Product Name: CHIR99021
Alternative Name(s): CT99021; Laduviglusib
IUPAC Name: 6-[2-[4-(2,4-Dichloro-phenyl)-5-(5-methyl-1H-imidazol-2-yl)-pyrimidin-2-ylamino]-ethylamino]-nicotinonitrile

Structure:



Amount:

CAS number(s): 252917-06-9
Molecular Formula: C₂₂H₁₈Cl₂N₈ **Molecular Weight:** 465.34
Batch Molecular Formula: C₂₂H₁₈Cl₂N₈.0.25H₂O **Batch Molecular Weight:** 469.84
Appearance: White solid **Observed mp:** >250 °C (decomp)
TLC (R_f): 0.6 EtOAc/THF (1:1)
Chemical Purity: 99.1%
¹H-NMR: Analytical data confirm chemical structure
Mass Spec: Analytical data confirm chemical structure
Microanalysis: Calculated: C 56.24, H 3.97, N 23.85; Found: C 56.14, H 3.74, N 23.84
Storage Conditions: Store at -20 °C

| Solubility Data: | Solvent | Solubility (mg/ml) | Solubility (mM) | Remarks |
|------------------|----------------|--------------------|-----------------|---------------------------------|
| | Water | 0.0 | 0.0 | Insoluble |
| | 0.1N NaOH (aq) | | | Not Tested |
| | 0.1N HCl (aq) | 10.4 | 22.1 | * Warming (40°C) and sonication |
| | DMSO | 28.0 | 59.6 | * Warming (40°C) |
| | EtOH | 2.3 | 5.0 | * Warming (40°C) |

Remarks: * Warming (40°C) and/or sonication enhanced solubility.

QC Date: 14-1-2022

The purity of Axon Ligands is confirmed by HPLC, MS, NMR and/or microanalysis. Analytical data are available upon request. Request can be submitted by e-mail to info@axonmedchem.com indicating Catalogue ID and Batch number.

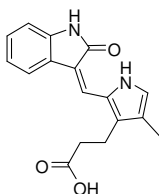
Caution: Not fully tested. For research purposes only



Certificate of Analysis

Axon Catalogue ID: 1667 **Batch Number:** 4
Product Name: SU 5402
Alternative Name(s): N.A.
IUPAC Name: 3-(4-Methyl-2-((2-oxoindolin-3-ylidene)methyl)-1H-pyrrol-3-yl)propanoic acid

Structure:



Amount:

CAS number(s): 215543-92-3
Molecular Formula: C₁₇H₁₆N₂O₃ **Molecular Weight:** 296.32
Batch Molecular Formula: C₁₇H₁₆N₂O₃ **Batch Molecular Weight:** 296.32
Appearance: Dark-yellow solid **Observed mp:** >226 °C (decomp)
TLC (R_f): 0.37 DCM/MeOH (9:1)
Chemical Purity: 99.4%
Optical Purity (ee): N.A.
¹H-NMR: Analytical data confirm chemical structure
Mass Spec: Analytical data confirm chemical structure
Microanalysis: Calculated: C 68.91, H 5.44, N 9.45; Found: C 68.57, H 5.47, N 9.38
Storage Conditions: Store at +4 °C

| Solubility Data: | Solvent | Solubility (mg/ml) | Solubility (mM) | Remarks |
|-------------------------|----------------|---------------------------|------------------------|----------------|
| | Water | 0.0 | 0.0 | Insoluble |
| | 0.1N NaOH (aq) | 20.0 | 67.5 | |
| | 0.1N HCl (aq) | | | Not Tested |
| | DMSO | 29.6 | >100 mM | |
| | EtOH | | | Not Tested |

Remarks:

QC Date: 30-6-2021

The purity of Axon Ligands is confirmed by HPLC, MS, NMR and/or microanalysis. Analytical data are available upon request. Request can be submitted by e-mail to info@axonmedchem.com indicating Catalogue ID and Batch number.

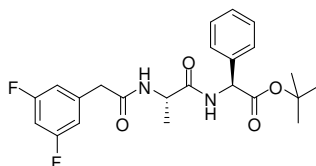
Caution: Not fully tested. For research purposes only



Certificate of Analysis

Axon Catalogue ID: 1484 **Batch Number:** 3
Product Name: DAPT
Alternative Name(s): N.A.
IUPAC Name: N-[(3,5-Difluorophenyl)acetyl]-L-alanyl-2-phenylglycine-1,1-dimethylethyl ester

Structure:



Amount:

CAS number(s): 208255-80-5
Molecular Formula: C₂₃H₂₆F₂N₂O₄ **Molecular Weight:** 432.46
Batch Molecular Formula: C₂₃H₂₆F₂N₂O₄ **Batch Molecular Weight:** 432.46
Appearance: White solid **Observed mp:** 142.7 - 144.4 °C
TLC (R_f): 0.6 DCM/MeOH (20:1)
Chemical Purity: 99.3%
Optical Purity (ee): Optically pure
Optical Rotation (Det.): [α]_D = +17.2° with c = 1.01 in MeOH
¹H-NMR: Analytical data confirm chemical structure
Mass Spec: Analytical data confirm chemical structure
Microanalysis: Calculated: C 63.88, H 6.06, N 6.48; Found: C 63.86, H 6.15, N 6.80
Storage Conditions: Store at +4 °C

| Solubility Data: | Solvent | Solubility (mg/ml) | Solubility (mM) | Remarks |
|------------------|----------------|--------------------|-----------------|------------|
| | Water | 0.0 | 0.0 | Insoluble |
| | 0.1N NaOH (aq) | | | Not Tested |
| | 0.1N HCl (aq) | | | Not Tested |
| | DMSO | 42.0 | 97.1 | |
| | EtOH | | | Not Tested |

Remarks:

QC Date: 21-9-2018

The purity of Axon Ligands is confirmed by HPLC, MS, NMR and/or microanalysis. Analytical data are available upon request. Request can be submitted by e-mail to info@axonmedchem.com indicating Catalogue ID and Batch number.

Caution: Not fully tested. For research purposes only