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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

PRODUCT INFORMATION

Asthma Treatment Standard Set

Item No. 10008640

Laboratory Procedures

For long term storage, we suggest that the Asthma Treatment Standard Set be stored as supplied at -20°C. It should be stable for at least two years.

Description

The Cayman Asthma Treatment Standard Set contains three potent, selective Cysteinyl Leukotriene (CysLT) 1 receptor antagonists (10 mg each) currently used clinically for the treatment of asthma. Zafirlukast and Montelukast (sodium salt), sold under the trade names Accolate and Singulair, respectively, are used for the treatment of asthma as well as for the symptoms associated with allergic rhinitis.[1-3] Pranlukast, sold under the trade name Ultair, was the first CysLT receptor antagonist marketed for the treatment of asthma.[4,5] In addition to these three $CysLT_1$ receptor antagonists, the asthma pak also includes Zileuton, which is supplied free of charge. Zileuton is a reversible 5-LO inhibitor that was approved in 1997 for the prevention and treatment of asthma in the USA, but was withdrawn by Abbott Laboratories in 2003.[6,7]

Component	Amount	Solubility
Zileuton	10 mg	>0.5 mg/ml in DMSO:PBS (pH 7.2) (1:1)
Zafirlukast	10 mg	>0.5 mg/ml in DMF:PBS (pH 7.2) (1:1)
Montelukast (sodium salt)	10 mg	>0.15 mg/ml in Ethanol:PBS (pH 7.2) (1:9)
Pranlukast	10 mg	>5 mg/ml in DMF:PBS (pH 7.2) (1:8)

References

1. Matassa, V.G., Maduskuie, T.P., Jr., Shapiro, H.S., *et al.* Evolution of a series of peptidoleukotriene antagonists: Synthesis and structure/activity relationships of 1,3,5-substituted indoles and indazoles. *J. Med. Chem.* **33**, 1781-1790 (1990).
2. Silverman, R.A., Nowak, R.M., Korenblat, P.E., *et al.* Zafirlukast treatment for acute asthma. Evaluation in a randomized, double-blind, multicenter trail. *Chest* **126**, 1480-1489 (2004).
3. Peters-Golden, M. and Henderson, W.R. The role of leukotrienes in allergic rhinitis. *Ann. Allergy Asthma Immunol.* **94**, 609-618 (2005).
4. Barnes, N.C., de Jong, B., and Miyamoto, T. Worldwide clinical experience with the first marketed leukotriene receptor antagonist. *Chest* **111**, 52-60 (1997).
5. Taniguchi, Y., Tamura, G., Honma, M., *et al.* The effect of an oral leukotriene antagonist ONO-1078, on allergen-induced immediate bronchoconstriction. *J. Allergy Clin. Immunol.* **92**, 507-512 (1993).
6. Carter, G.W., Young, P.R., Albert, D.H., *et al.* 5-Lipoxygenase inhibitory activity of zileuton. *J. Pharmacol. Exp. Ther.* **256**, 929-937 (1991).
7. Zouboulis, Ch.C., Saborowski, A., and Boschnakow, A. Zileuton, an oral 5-lipoxygenase inhibitor, directly reduces sebum production. *Dermatology* **210**, 36-38 (2005).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
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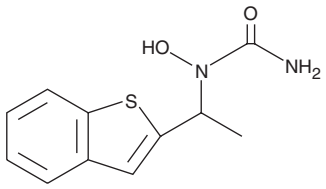
PRODUCT INFORMATION

Zileuton

Item No. 10006967

CAS Registry No.:	111406-87-2
Formal Name:	N-(1-benzo[b]thien-2-ylethyl)-N-hydroxy-urea
Synonym:	Zyflo™
MF:	$C_{11}H_{12}N_2O_2S$
FW:	236.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 203, 230, 260, 299 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Zileuton is supplied as a crystalline solid. A stock solution may be made by dissolving the zileuton in an organic solvent purged with an inert gas. Zileuton is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of zileuton in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Zileuton is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, zileuton should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Zileuton has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

There is substantial evidence that the cysteinyl leukotrienes (CysLTs), such as LTC_4, LTD_4, and LTE_4, play an important role in the pathophysiology of asthma.[1,2] Arachidonic acid is the precursor fatty acid that is transformed into LTs by way of the 5-lipoxygenase (5-LO) pathway. Zileuton (Zyflo™) is a reversible 5-LO inhibitor that was approved in 1997 for the prevention and treatment of asthma in the USA, but was withdrawn by Abbott Laboratories in 2003.[3,4] Zileuton inhibits 5-LO from rat basophilic leukemia-1 (RBL-1) cells with an IC_{50} value of 0.5 µM. It is a potent inhibitor of LTB_4 production in purified human peripheral blood polymorphonuclear leukocytes (PMNL) with an IC_{50} value of 0.6 µM.[3]

References

1. Drazen, J.M., Israel, E., and O'Byrne, P.M. Treatment of asthma with drugs modifying the leukotriene pathway. *N. Engl. J. Med.* **340**, 197-206 (1999).
2. Centanni, S. and Santus, P. Antileukotrienes in clinical development for asthma. *Expert Opin. Investig. Drugs* **11(1)**, 49-58 (2002).
3. Carter, G.W., Young, P.R., Albert, D.H., *et al.* 5-Lipoxygenase inhibitory activity of zileuton. *J. Pharmacol. Exp. Ther.* **256**, 929-937 (1991).
4. Zouboulis, Ch.C., Saborowski, A., and Boschnakow, A. Zileuton, an oral 5-lipoxygenase inhibitor, directly reduces sebum production. *Dermatology* **210**, 36-38 (2005).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
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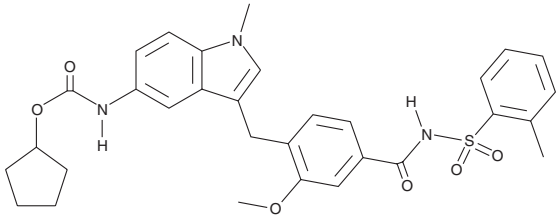
PRODUCT INFORMATION

Zafirlukast

Item No. 10008282

CAS Registry No.:	107753-78-6
Formal Name:	[3-[[2-methoxy-4-[[[(2-methylphenyl)sulfonyl]amino]carbonyl]phenyl]methyl]-1-methyl-1H-indol-5-yl]-carbamic acid, cyclopentyl ester
Synonym:	Accolate™
MF:	$C_{31}H_{33}N_3O_6S$
FW:	575.7
Purity:	≥97%
UV/Vis.:	λ_{max}: 203, 215, 241, 299 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Zafirlukast is supplied as a crystalline solid. A stock solution may be made by dissolving the zafirlukast in an organic solvent purged with an inert gas. Zafirlukast is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of zafirlukast in these solvents is approximately 0.25, 20, and 30 mg/ml, respectively.

Zafirlukast is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, zafirlukast should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Zafirlukast has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The cysteinyl leukotrienes (CysLTs), LTC_4 and LTD_4, are potent mediators of asthma and hypersensitivity. They induce bronchoconstriction, increase microvascular permeability, and are vasoconstrictors of coronary arteries. Their biological effects are transduced by a pair of G protein-coupled receptors, $CysLT_1$ and $CysLT_2$.[1-3] Zafirlukast is a potent, selective $CysLT_1$ receptor antagonist sold under the trade name Accolate for the treatment of asthma as well as for the symptoms associated with allergic rhinitis.[4-6] It binds to the human $CysLT_1$ and $CysLT_2$ receptors with IC_{50} values of approximately 5 and 7,400 nM, respectively.[1-3]

References

1. Lynch, K.R., O'Neill, G.P., Liu, Q., *et al. Nature* **399**, 789-793 (1999).
2. Heise, C.E., O'Dowd, B.F., Figueroa, D.J., *et al. J. Biol. Chem.* **275**, 30531-30536 (2000).
3. Sarau, H.M., Ames, R.S., Chambers, J., *et al. Mol. Pharmacol.* **56**, 657-663 (1999).
4. Matassa, V.G., Maduskuie, T.P., Jr., Shapiro, H.S., *et al. J. Med. Chem.* **33**, 1781-1790 (1990).
5. Silverman, R.A., Nowak, R.M., Korenblat, P.E., *et al. Chest* **126**, 1480-1489 (2004).
6. Peters-Golden, M. and Henderson, W.R. *Ann. Allergy Asthma Immunol.* **94**, 609-618 (2005).

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1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
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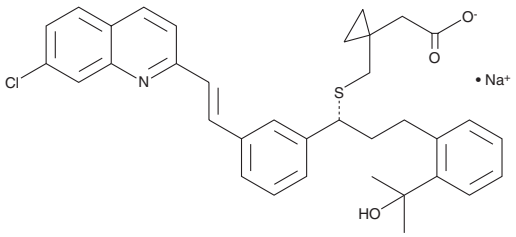
PRODUCT INFORMATION

Montelukast (sodium salt)

Item No. 10008318

CAS Registry No.: 151767-02-1
Formal Name: 1-[[[(1R)-1-[3-(1E)-2-(7-chloro-2-quinolinyl)ethenyl]phenyl]-3-[2-(1-hydroxy-1-methylethyl)phenyl]propyl]thio]-methyl]-cyclopropaneacetic acid, monosodium salt
Synonym: MK-476
MF: $C_{35}H_{35}ClNO_3S \bullet Na$
FW: 608.2
Purity: ≥98%
UV/Vis.: λ_{max}: 212, 284, 328, 345, 359 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Montelukast (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the montelukast (sodium salt) in the solvent of choice. Montelukast (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of montelukast (sodium salt) in these solvents is approximately 30 mg/ml. It is also soluble in water at a concentration of 10 mg/ml.

Montelukast (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, montelukast (sodium salt) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Montelukast (sodium salt) has a solubility of approximately 0.15 mg/ml in a 1:9 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The cysteinyl leukotrienes (CysLTs), LTC_4 and LTD_4, are potent mediators of asthma and hypersensitivity. They induce bronchoconstriction, increase microvascular permeability, and are vasoconstrictors of coronary arteries. Their biological effects are transduced by a pair of G protein-coupled receptors, $CysLT_1$ and $CysLT_2$.[1-3] Montelukast (sodium salt) is a potent, selective $CysLT_1$ receptor antagonist sold under the trade name Singulair for the treatment of asthma as well as for the symptoms associated with allergic rhinitis.[4-7] It binds to the human $CysLT_1$ receptor with an IC_{50} value of less than 5nM with no appreciable binding to the $CysLT_2$ receptor.[1-3]

References

1. Lynch, K.R., O'Neill, G.P., Liu, Q., *et al. Nature* **399**, 789-793 (1999).
2. Heise, C.E., O'Dowd, B.F., Figuerosa, D.J., *et al. J. Biol. Chem.* **275**, 30531-30536 (2000).
3. Sarau, H.M., Ames, R.S., Chambers, J., *et al. Mol. Pharmacol.* **56**, 657-663 (1999).
4. Leff, J.A., Busse, W.W., Pearlman, D., *et al. N. Engl. J. Med.* **339**, 147-152 (1998).
5. Reiss, T.F., Chervinsky, P., Dockhorn, R.J., *et al. Arch. Intern. Med.* **158**, 1213-1220 (1998).
6. Reiss, T.F., Altman, L.C., Chervinsky, P., *et al. J. Allerg. Clin Immunol.* **98**, 528-534 (1996).
7. Peters-Golden, M. and Henderson, W.R. *Ann. Allergy Asthma Immunol.* **94**, 609-618 (2005).

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ANN ARBOR, MI 48108 · USA
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[734] 971-3335
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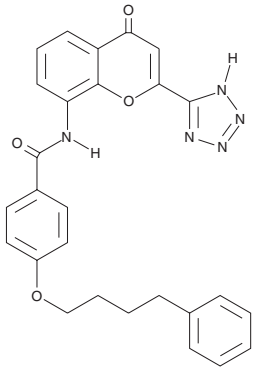
PRODUCT INFORMATION

Pranlukast

Item No. 10008319

CAS Registry No.:	103177-37-3
Formal Name:	N-[4-oxo-2-(1H-tetrazol-5-yl)-4H-1-benzopyran-8-yl]-4-(4-phenylbutoxy)-benzamide
Synonyms:	ONO-1078, Ultair™
MF:	$C_{27}H_{23}N_5O_4$
FW:	481.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 255, 315 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Pranlukast is supplied as a crystalline solid. A stock solution may be made by dissolving the pranlukast in an organic solvent purged with an inert gas. Pranlukast is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of pranlukast in these solvents is approximately 10 and 20 mg/ml, respectively.

Pranlukast is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pranlukast should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Pranlukast has a solubility of approximately 5 mg/ml in a 1:8 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The cysteinyl leukotrienes (CysLTs) LTC_4 and LTD_4 are potent mediators of asthma and hypersensitivity. They induce bronchoconstriction, increase microvascular permeability, and are vasoconstrictors of coronary arteries. Their biological effects are transduced by a pair of G protein-coupled receptors, $CysLT_1$ and $CysLT_2$.[1-3] Pranlukast (ONO-1078) is a potent, selective and orally active $CysLT_1$ receptor antagonist.[4] Sold under the trade name Ultair, it was the first cysteinyl (peptidyl) leukotriene receptor antagonist (LTRA) marketed for the treatment of asthma.[5] Clinical studies in Japan, Europe, and North America all show that pranlukast significantly attenuates bronchoconstriction in response to a variety of allergen challenges as well as to inhaled LTD_4.[5] Pranlukast binds to the human $CysLT_1$ and $CysLT_2$ receptors with IC_{50} values of approximately 4-7 nM and 3,600 nM, respectively.[1-3]

References

1. Lynch, K.R., O'Neill, G.P., Liu, Q., *et al. Nature* **399**, 789-793 (1999).
2. Heise, C.E., O'Dowd, B.F., Figueroa, D.J., *et al. J. Biol. Chem.* **275**, 30531-30536 (2000).
3. Sarau, H.M., Ames, R.S., Chambers, J., *et al. Mol. Pharmacol.* **56**, 657-663 (1999).
4. Taniguchi, Y., Tamura, G., Honma, M., *et al. J. Allergy Clin. Immunol.* **92**, 507-512 (1993).
5. Barnes, N.C., de Jong, B., and Miyamoto, T. *Chest* **111**, 52-60 (1997).

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[734] 971-3335
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