

CHIR-99021

Kinase Inhibitor

Catalog # G09-901B

Lot # T2257-33

CAS # 252917-06-9

Product Description

Molecular Formula: C₂₂H₁₈Cl₂N₈

Appearance: Tan colored powder

Melting Point: N/A

Molecular Weight: 465.3

Purity: >98% (TLC); NMR conforms

Solubilization: May be dissolved in DMSO (25 mg/ml, warm)

Alias

6-[[[2-[[4-(2,4-Dichlorophenyl)-5-(5-methyl-1H-imidazol-2-yl)-2-pyrimidinyl] amino] ethyl] amino]-3-pyridinecarbonitrile

Specific Activity

GSK3β inhibitor.

Storage and Stability

Store desiccated as supplied at -20°C for up to 2 years.

Store solutions at -20°C for up to 3 months

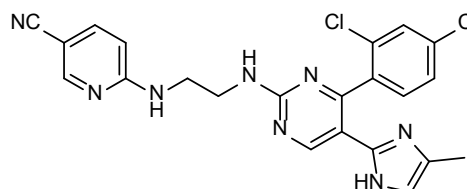
Scientific Background

Potent and selective inhibitor of glycogen synthase kinase-3β (GSK3β, IC₅₀ = 5 nM) and GSK3α (IC₅₀ = 10 nM) (1). Induces osteoblastogenesis, increases mineralization and inhibits adipogenesis in ST2 cells (2). Promotes replication and survival of pancreatic beta cells (3). Enhances differentiation and reduces proliferation of adult human olfactory epithelium neural precursors (4). Cell permeable and active in vivo.

References

1. CN Bennett et al. J. Biol. Chem. 2002 277:30998
2. CN Bennett et al. PNAS 2005 102:3324
3. R Musmann et al. J. Biol. Chem. 2007 282:12030
4. AP Manceur et al. Exp. Cell. Res. 2011 317:2086

Molecular Structure



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Purity >98% (TLC); NMR conforms

Format Lyophilized powder

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MATERIAL SAFETY DATA SHEET

Article 1 – Identification of the Substance and of the Company/Undertaking

Product Name: CHIR-99021

Catalog # G09-901B

This product is sold only for research use by qualified laboratory personnel, and is not to be used as a drug, medical device, food additive, cosmetic, nor household chemical. It is not to be used in diagnostic, therapeutic, consumer, agricultural, nor pesticidal applications.

Manufacturer's Name: SignalChem Pharmaceuticals Inc.
Street Address: 550-5600 Parkwood Way
City, Prov. Postal Code: Richmond, BC, V6V 2M2
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Article 2 - Hazardous Identification

2.1 Classification of Substance (GHS)

Skin Category 2

Eye Category 2A

Specific target organ toxicity - single exposure (Category 3)

2.2 Label Elements

Classification according to Regulation (EC) No 1272/2008



GHS07

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see on this label).
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Data not available

Article 3 – Composition/Information on Ingredients

3.1 Substance

Product Name(s): CHIR-99021, 6-[[2-[[4-(2,4-Dichlorophenyl)-5-(5-methyl-1H-imidazol-2-yl)-2-pyrimidinyl] amino] ethyl] amino]-3-pyridinecarbonitrile

Molecular Formula: C₂₂H₁₈Cl₂N₈

CAS # 252917-06-9

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Article 4 – First Aid

4.1 Description of First Aid Measures

General: Move out of dangerous area and contact a doctor. Provide them with this data sheet.

If Inhaled: Move to fresh air, and monitor breathing. Give artificial respiration if breathing stops. Consult a doctor.

In Case of Skin Contact: Remove contaminated clothing. Wash with soap and water for an extended period of time. Consult a doctor.

In Case of Eye Contact: Immediately flush eye(s) with copious amounts of water for at least 15 minutes. Consult a doctor.

If Swallowed: Rinse out the mouth with water. Do not give anything by mouth. Consult a doctor.

4.2 Important Symptoms and Effects

Lung, skin and eye irritant. Prolonged exposure is not known to aggravate prior medical conditions

Article 5 – Fire Fighting Measures

5.1 Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special Hazards

May emit toxic fumes.

5.3 Precautions for Fire Fighters

Wear suitable protection to prevent contact and respirator for fumes.

Article 6 – Accidental Release Measures

6.1 Personal Precautions

Relocate personnel to a safe area and ensure ventilation is in working order. Wear protective equipment. Avoid dust formation and inhalation of fumes.

6.2 Environmental Precautions

Do not let product enter drains

6.3 Methods for Containment and Clean-up

Sweep up material without generating dust clouds and place in a sealed container for disposal. Clean surface where spill occurred.

Article 7 – Handling and Storage

7.1 Handling Precautions

Use in a well ventilated area. Avoid formation of dust or aerosols. Keep away from sources of ignition. Wear suitable protective clothing. Avoid inhalation, and skin or eye contact.

7.2 Safe Storage Measures

Keep product in a sealed contained located in dry well ventilated area.

Article 8 – Exposure Controls/Personal Protection

8.1 Control Parameters

Contains no substances with occupational exposure limit values.

8.2 Specific Engineering Controls

Keep airborne levels low by using a fumehood or local exhaust.

8.3 Personal Protection

Eye/Face Protection: Use safety glasses.

Skin Protection: Use chemical resistant gloves. Remove and dispose of gloves properly after use. Wash hands thoroughly after use.

Body Protection: Wear a lab coat.

Respiratory Protection: If risk is present wear a dust respirator.

Article 9 – Physical and Chemical Properties

Appearance: Tan Colored Powder

Odour: data not available

Odour Threshold: data not available

pH: data not available

Melting/Freezing Pt: data not available

Boiling Pt: data not available

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Flash Pt: data not available
Explosive Properties: data not available

Article 10 – Stability and Reactivity

10.1 Stability

Stable under recommended transport or storage conditions

10.2 Conditions to Avoid

Moist and hot conditions

10.3 Hazardous Decomposition Products

Carbon oxides (CO, CO₂). Possible toxic fumes upon combustion.

Article 11– Toxicological Information

11.1 Toxicological Effects

Acute Toxicity: data not available

Skin Corrosion/Irritation: data not available

Eye Damage/Irritation: data not available

Respiratory or Skin Sensitization: data not available

Germ Cell Mutagenicity: data not available

Carcinogenicity: None according to NIOSH

Article 12 – Ecological Information

12.1 Toxicity

Data not available

12.2 Degradability

Data not available

Article 13 – Disposal Considerations

13.1 Waste Treatment

Product and Contaminated Packaging: Dispose according to national legislation. Contact a licensed chemical disposal company.

Article 14 – Transport Information

14.1 DOT

Not dangerous

14.2 IMDG

Not dangerous

14.2 IATA

Not dangerous

Article 15 – Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Article 16 – Other Information

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Prepared by: Jun Yan

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