

## IM-12

GSK3β Inhibitor

**Catalog # G09-901D**

Lot # J3942-19

CAS # 1129669-05-1

### Product Description

Molecular Formula: C<sub>22</sub>H<sub>20</sub>FN<sub>3</sub>O<sub>2</sub>

Appearance: Yellow powder

Molecular Weight: 377.4

Purity: >98% (HPLC); NMR (conforms)

Solubility: May be dissolved DMSO (50 mg/ml)

### Alias

3-(4-Fluorophenylethylamino)-1-methyl-4-(2-methyl-1H-indol-3-yl)-1H-pyrrole-2,5-dione

### 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 2 months.

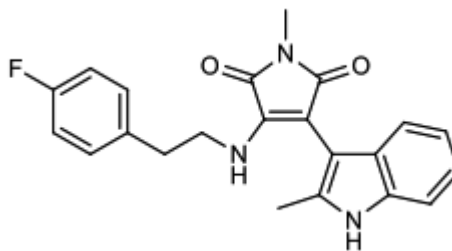
### Scientific Background

A potent and selective inhibitor of glycogen synthase kinase 3β (GSK-3β) IC<sub>50</sub>=53 nM which induces neuronal differentiation (1). Activates the Wnt-β-catenin signaling pathway and attenuates tissue plasminogen activator-induced hemorrhagic transformation after acute ischemic stroke in animal models (2). Promoted hair follicle growth *in vitro* and antagonized the inhibition of hair follicles by dihydrotestosterone (3). Down-regulates Sox9 expression in limbal epithelial stem/progenitor cells leading to increased differentiation (4).

### References

- Schmöle A-C et al. Bioorg. Med. Chem. 2010 18:6785
- Wang T et al. Biochem. Cell Biol. 2019 97:702
- Chen X et al. Front. Pharmacol. 2020 10:1528
- Menzel-Severing J et al. Sci. Rep. 2018 8:10268

### Molecular Structure



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CAS #	1129669-05-1
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Format	Yellow powder
Solubility	May be dissolved in DMSO (50 mg/ml)
Storage & Shipping	Store desiccated as supplied at -20°C for up to 2 years. Store solutions at -20°C for up to 2 months.

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# SAFETY DATA SHEET

## Article 1 – Identification of the Substance

**Product Name: IM-12**

**Catalog # G09-901D**

*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 Biotech Inc.  
Street Address: 110-13120 Vanier Place  
City, Prov. Postal Code: Richmond, BC, V6V 2J2  
Fax: 604-232-4601  
EMERGENCY PHONE: 604-232-4600

## Article 2 - Hazardous Identification

### 2.1 Classification of Substance (GHS)

Acute Toxicity: Oral, Category 4

### 2.2 Label Elements

Classification according to Regulation (EC) No 1272/2008



**GHS Signal Word: WARNING**

#### GHS Hazard Phrases:

H302	Harmful if swallowed
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#### GHS Precaution Phrases:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P270	Do not eat, drink or smoke when using this product

#### GHS Response Phrases:

P301+312+330	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse Mouth
P308+313	IF exposed or concerned: Get medical attention/advice.

#### GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal Information

**2.3 Other hazards:** To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

## Article 3 – Composition/Information on Ingredients

### 3.1 Substance

**Product Name(s):** IM-12  
**Chemical Name:** 3-(4-Fluorophenylethylamino)-1-methyl-4-(2-methyl-1H-indol-3-yl)-1H-pyrrole-2,5-dione  
**Molecular Formula:** C<sub>22</sub>H<sub>20</sub>FN<sub>3</sub>O<sub>2</sub>  
**CAS Number:** 1129669-05-1  
**Concentration:** 100%

## Article 4 – First Aid

### 4.1 Description of First Aid Measures

**General:** Symptoms of poisoning may even occur after several hours; therefore, medical observation for at least 48 hours after the accident.

**If Inhaled:** Move to fresh air, and monitor breathing. Give artificial respiration if breathing stops. Get immediate medical attention.

**In Case of Skin Contact:** Generally, the product does not irritate the skin.

**In Case of Eye Contact:** Hold eyelids apart and immediately flush eye(s) with copious amounts of water for at least 15 minutes.

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**If Swallowed:** Immediately call a doctor. Rinse out the mouth with water provided person is conscious. Do not give anything by mouth. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

**4.2 Important Symptoms and Effects:** May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects. No further relevant information is available.

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## Article 5 – Fire Fighting Measures

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### 5.1 Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. A solid water stream may be inefficient.

### 5.2 Special Hazards

No further relevant information available.

### 5.3 Precautions for Fire Fighters

No special measures required.

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## Article 6 – Accidental Release Measures

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### 6.1 Personal Precautions

Not required.

### 6.2 Environmental Precautions

Do not let product enter drains, if safe to do so.

### 6.3 Methods for Containment and Clean-up

Contain spill and collect, as appropriate. Sweep up material without generating dust clouds and place in a sealed container for disposal.

Clean surface where spill occurred.

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## Article 7 – Handling and Storage

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### 7.1 Handling Precautions

No special precautions are necessary if used correctly. Avoid prolonged or repeated exposure. Keep away from sources of ignition. Avoid inhalation, and skin or eye contact.

### 7.2 Safe Storage Measures

Keep product in a sealed container. Store in accordance with information listed on the product insert.

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## Article 8 – Exposure Controls/Personal Protection

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### 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.

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## Article 9 – Physical and Chemical Properties

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**Appearance:** yellow 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

**Flash Pt:** data not available

**Explosive Properties:** Product does not present an explosion hazard.

**Solubility notes:** May be dissolved in DMSO (50 mg/ml)

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## Article 10 – Stability and Reactivity

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**10.1 Stability:** Stable under recommended transport or storage conditions

**10.2 Conditions to Avoid:** No further relevant information available.

**10.3 Incompatibility – Materials to Avoid:** Strong oxidizing agents

**10.4 Hazardous Decomposition Products:** No dangerous decomposition products known.

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## Article 11– Toxicological Information

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**11.1 Toxicological Effects:** The toxicological effects of this product have not been thoroughly studied.

**Acute Toxicity:**

**Skin Corrosion/Irritation:** no irritant effect

**Eye Damage/Irritation:** no irritating effect

**Respiratory or Skin Sensitization:** no sensitizing effects known

**Carcinogenicity:** None according to NIOSH

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## Article 12 – Ecological Information

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### 12.1 Toxicity

Avoid release into the environment.

### 12.2 Degradability

Data not available

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## Article 13 – Disposal Considerations

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### 13.1 Waste Treatment

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

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## Article 14 – Transport Information

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### 14.1 DOT

Not dangerous goods

### 14.2 IMDG

Not dangerous goods

### 14.2 IATA

Not dangerous goods

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## Article 15 – Regulatory Information

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

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## Article 16 – Other Information

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The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SignalChem shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalog for additional terms and conditions of sale.

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