



# Inorganic Ligands

for Focused-Target

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# Preamble

In the multifaceted world of modern biochemistry, no domain has taken on as much significance as the complex interplay between ligands and their respective biological targets. This realm of interactions, at once minute in scale and massive in impact, is the cornerstone of countless biochemical processes and, indeed, life itself.

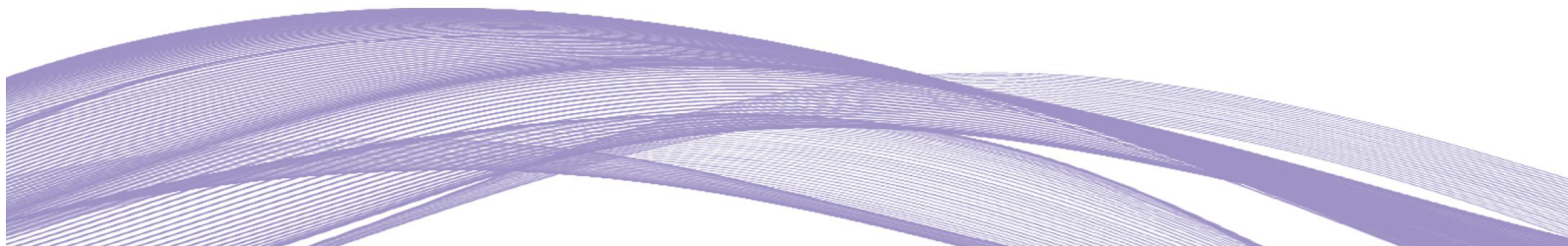
This handbook is designed to serve as a comprehensive guide to the study of ligands used for targets. Our aim is to provide readers with a profound understanding of the myriad aspects of ligand-target interactions, including the molecular intricacies, the physiological implications, and the therapeutic potential of these biochemical duos.

Ligands are entities, typically small molecules, proteins, or ions, which bind to specific targets, usually proteins such as receptors, ion channels, or enzymes, within organisms. The result of this binding action can be the modulation of the target's function, leading to an array of physiological effects, from signal transmission and immunological response to hormonal regulation and beyond. Not only are ligand-target interactions vital for normal biological function, but they also hold immense potential for therapeutic interventions.

In this handbook, we delve into the underlying principles of ligand-target interaction, exploring topics from fundamental biochemistry to advanced pharmacodynamics. We seek to illuminate how these interactions are integral to drug discovery and development processes, providing the scaffold for the creation of therapeutic strategies to combat a host of medical conditions.

We hope this handbook serves not only as a tool for learning but also as a catalyst for innovative thought, encouraging readers to explore and expand the boundaries of what we currently understand about ligands and their targets. The complex dance of molecular interaction waits for no one; it is our privilege to invite you to join in this exploration, to comprehend, and perhaps even to influence the rhythm of life.

As we embark on this journey through the world of ligands and targets, let us remember that the secrets of life are often found in the smallest of interactions. With the right understanding and application, these minute phenomena have the potential to instigate seismic shifts in our approach to health and disease.



# Catalogue

1. Activator

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2. Agonist

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3. Allosteric modulator

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4. Antagonist

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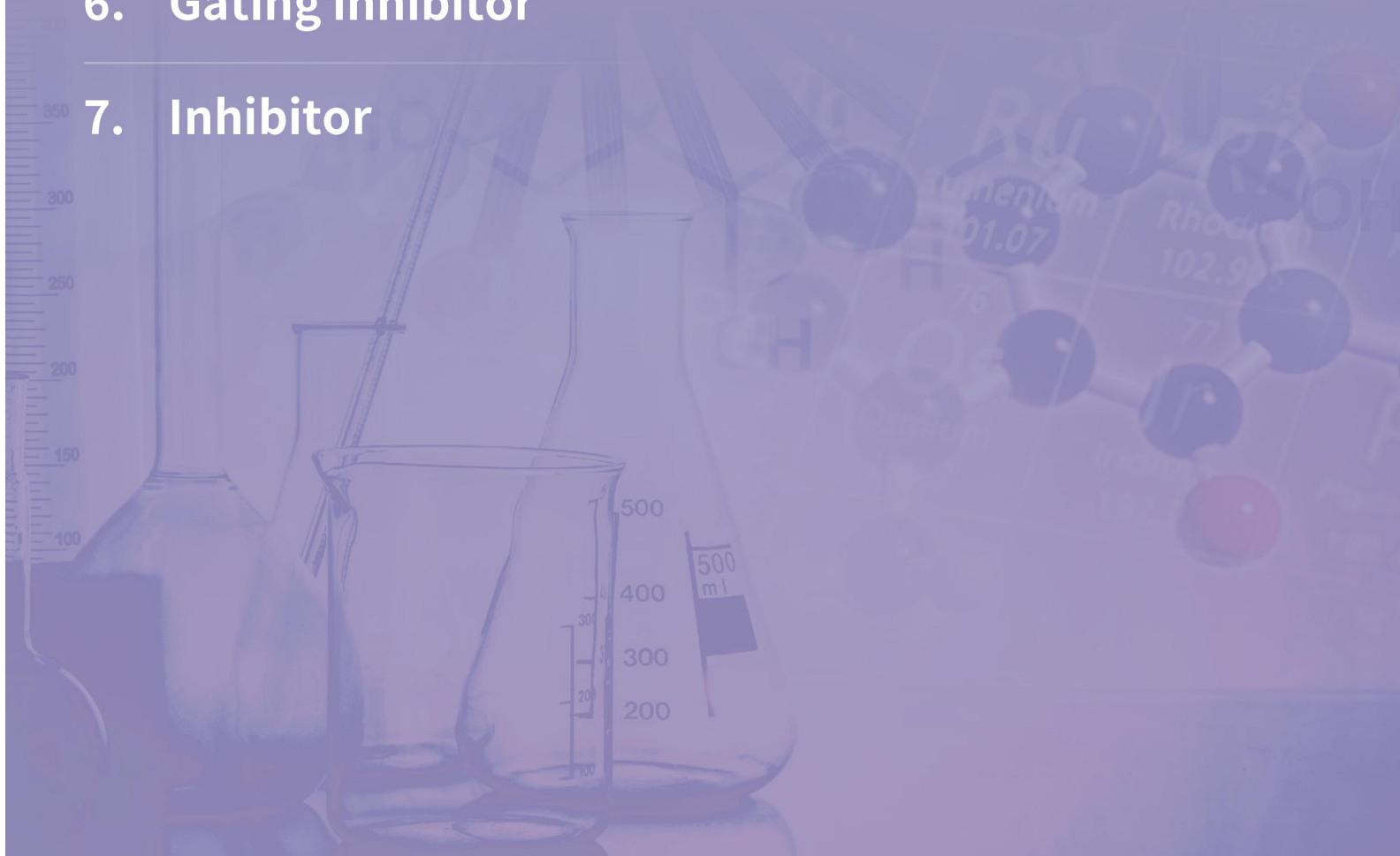
5. Channel blocker

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6. Gating inhibitor

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7. Inhibitor



## Activator

| Target                      | Cat.No  | CAS        | Product Name                    | Specification                                   | Type      | Action     |
|-----------------------------|---------|------------|---------------------------------|-------------------------------------------------|-----------|------------|
| CaCC                        | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | None       |
| IP3R1,IP3R2,IP3R3           | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | None       |
| KCa2.1,KCa2.2,KCa2.3,KCa3.1 | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | Agonist    |
| RyR1,RyR2,RyR3              | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | None       |
| TRPA1                       | N357056 | 13477-95-7 | Nickel(II) cyanide tetrahydrate | -                                               | Activator | Activation |
| TRPA1                       | H433852 | 7722-84-1  | Hydrogen peroxide solution      | purum p.a., ≥35% (RT)                           | Activator | Activation |
| TRPA1                       | A116373 | 12125-02-9 | Ammonium chloride               | for cell culture                                | Activator | Activation |
| TRPC2,TRPC5                 | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | None       |
| TRPC5                       | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | Activation |
| TRPM2                       | H433852 | 7722-84-1  | Hydrogen peroxide solution      | purum p.a., ≥35% (RT)                           | Activator | Agonist    |
| TRPM2                       | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | None       |
| TRPM4,TRPM5                 | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | Agonist    |
| TRPP1                       | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | None       |
| TRPP2                       | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Activator | Agonist    |
| TRPP2                       | H475775 | 7647-01-0  | Hydrochloric acid               | Reagent Plus, ≥99%                              | Activator | Agonist    |

## Agonist

| Target       | Cat.No  | CAS        | Product Name                    | Specification                                   | Type    | Action       |
|--------------|---------|------------|---------------------------------|-------------------------------------------------|---------|--------------|
| CaS receptor | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Agonist | Full agonist |
| ZAC          | N357056 | 13477-95-7 | Nickel(II) cyanide tetrahydrate | -                                               | Agonist | Agonist      |

## Allosteric modulator

| Target                            | Cat.No  | CAS        | Product Name                    | Specification                                   | Type                 | Action     |
|-----------------------------------|---------|------------|---------------------------------|-------------------------------------------------|----------------------|------------|
| 5-HT <sub>3A</sub>                | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Allosteric modulator | Negative   |
| glycine receptor α1,α2,α3 subunit | N357056 | 13477-95-7 | Nickel(II) cyanide tetrahydrate | -                                               | Allosteric modulator | Inhibition |

## Antagonist

| Target         | Cat.No  | CAS        | Product Name                   | Specification                                   | Type       | Action     |
|----------------|---------|------------|--------------------------------|-------------------------------------------------|------------|------------|
| RyR1,RyR2,RyR3 | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Antagonist | Antagonist |
| ZAC            | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Antagonist | Antagonist |

## Channel blocker

| Target | Cat.No  | CAS        | Product Name                   | Specification                                   | Type            | Action |
|--------|---------|------------|--------------------------------|-------------------------------------------------|-----------------|--------|
| Nav2.1 | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Channel blocker | None   |
| TRPM6  | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Channel blocker | None   |

## Gating inhibitor

| Target | Cat.No  | CAS        | Product Name                   | Specification                                   | Type             | Action     |
|--------|---------|------------|--------------------------------|-------------------------------------------------|------------------|------------|
| KNa1.1 | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Gating inhibitor | Antagonist |

## Inhibitor

| Target                                                                     | Cat.No  | CAS        | Product Name                    | Specification                                   | Type      | Action     |
|----------------------------------------------------------------------------|---------|------------|---------------------------------|-------------------------------------------------|-----------|------------|
| AQP1                                                                       | N357056 | 13477-95-7 | Nickel(II) cyanide tetrahydrate | -                                               | Inhibitor | None       |
| Cx23,25,26,30,30.2,30.3,31,31.1,31.9,32,36,37,40,40.1,43,45,46,47,50,59,62 | A473793 | 12228-87-4 | Ammonium baborate tetrahydrate  | 98.9-101.2% B <sub>2</sub> O <sub>3</sub> basis | Inhibitor | None       |
| glycogen synthase kinase 3 beta                                            | L106889 | 7439-93-2  | Lithium                         | low sodium, 99.95% metals basis                 | Inhibitor | Inhibition |
| IMPase 1                                                                   | L106889 | 7439-93-2  | Lithium                         | low sodium, 99.95% metals basis                 | Inhibitor | Inhibition |

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