

## Targeting mast cells for therapeutic interventions in allergic and inflammatory disease.

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### Introduction

Mast cells are a type of white blood cell that plays an important role in the body's immune response. When mast cells are activated, they release histamine and other chemicals that cause inflammation and allergy symptoms. Mast cell stabilizers, such as sodium cromoglycate and nedocromil sodium, work by preventing the release of these chemicals and thus reducing inflammation and allergy symptoms. Mast cell stabilizers are a class of medications that are used to prevent the release of histamine and other inflammatory mediators from mast cells. These medications are commonly used to treat conditions such as asthma, allergic rhinitis and allergic conjunctivitis [1].

Mast cells are a type of immune cell that plays a key role in the body's inflammatory response. When mast cells are activated, they release histamine and other chemicals that can cause inflammation, swelling and other symptoms. Mast cell stabilizers work by preventing the activation of mast cells, which in turn prevents the release of histamine and other inflammatory mediators. This helps to reduce inflammation and other symptoms associated with allergic reactions. Mast cell stabilizers are generally considered safe and effective for most people, but like all medications, they can have side effects. Some possible side effects of mast cell stabilizers include headache, nasal irritation and throat irritation. It is important to talk to your doctor if you have any concerns about taking mast cell stabilizers or if you experience any side effects while taking these medications [2].

Sodium cromoglycate, also known as cromolyn sodium, was first discovered in the 1960s and has been used to treat asthma, allergic rhinitis and other allergic conditions ever since. It is available in various forms, including inhalers, eye drops and nasal sprays. The mechanism of action of sodium cromoglycate is not completely understood, but it is believed to inhibit the release of histamine and other inflammatory mediators from mast cells. This prevents the onset of asthma symptoms and other allergic reactions. Sodium cromoglycate is most commonly used in the treatment of asthma. It can be used as a preventive medication to reduce the frequency and severity of asthma attacks. It is often used in combination with other asthma medications, such as inhaled corticosteroids or bronchodilators, to provide better symptom control. In addition to asthma, sodium cromoglycate is also used to treat

allergic rhinitis, conjunctivitis and other allergic conditions [3].

Nedocromil sodium is another mast cell stabilizer that is used to treat asthma and other allergic conditions. It works in a similar way to sodium cromoglycate, by preventing the release of inflammatory mediators from mast cells. However, nedocromil sodium is believed to be more potent than sodium cromoglycate and it may have a longer-lasting effect. Nedocromil sodium is available in various forms, including inhalers and eye drops. Like sodium cromoglycate, it is often used in combination with other asthma medications for better symptom control. It is also used to treat allergic rhinitis, conjunctivitis and other allergic conditions [4].

While both sodium cromoglycate and nedocromil sodium are effective at reducing inflammation and allergy symptoms, they do have some potential side effects. Common side effects of both medications include throat irritation, coughing and wheezing. These side effects are usually mild and go away on their own after a short time. In rare cases, more serious side effects can occur. These may include chest pain, palpitations and difficulty breathing. If these side effects occur, it is important to seek medical attention immediately. In addition to their side effects, sodium cromoglycate and nedocromil sodium also have some limitations. They are not effective for the treatment of acute asthma attacks and should not be used as rescue medications. They are also not effective for the treatment of non-allergic asthma [5].

### Conclusion

In conclusion, mast cell stabilizers such as sodium cromoglycate and nedocromil sodium are effective medications for the treatment of asthma, allergic rhinitis, conjunctivitis and other allergic conditions. They work by preventing the release of inflammatory mediators from mast cells, which reduces inflammation and allergy symptoms. While they have some potential side effects and limitations, they are generally safe and well-tolerated by most patients.

### References

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