Innate immune biology offers a multitude of clinical targets and pathways across several therapeutic areas. With a focus on small molecules, IFM Therapeutics is developing therapies with systemic and targeted delivery options, as well as the potential for combination treatments.

**Understanding Innate Immunity**

**Innate Immunity**
- NOD-like receptors (NLR)
- RIG-1 like receptors (RLR)

**Internal PRRs:**
- Toll-like receptors (TLR)
- C-type lectin receptors (CLR)

**Surface PRRs:**
- CD14
- C-reactive protein

**Pattern Recognition Receptors**
- Pathogens are identified by pattern recognition receptors (PRRs) found on the surface or inside specialized immune cells.
- They include NOD-like receptors (NLR), RIG-1-like receptors (RLR), toll-like receptors (TLR), and C-type lectin receptors (CLR).

**Innate Immunity and Disease**
- Cancers grow and spread when tumor cells evade detection by the immune system. The innate immune system is responsible for detecting cancer cells and signaling to the adaptive immune system for the destruction of the cancer cells.

**Infammation**
- Certain diseases trigger the innate immune system to unnecessarily respond and cause excessive inflammation.

**Scientists estimate innate immunity comprises approximately 80% of the immune system.**

**DEEP DIVE INTO INNATE IMMUNITY**
A variety of innate immune cell types build the first line of defense, surveilling for threats and quickly responding to invading pathogens.

**Immune System and Disease**
If the immune system consistently under-responds or over-responds, serious diseases can result.

**IMMUNE SYSTEM AND DISEASE**
- If the immune system is too active, it can lead to chronic inflammation associated with autoimmune and auto-inflammatory conditions.

**INTRODUCTION**
The immune system is comprised of two arms that work together to protect the body – the innate and adaptive immune systems.

**INNATE IMMUNITY**
- Innate immunity is the body’s first line of defense and responds quickly to anything that should not be present.

**ADAPTIVE IMMUNITY**
- The adaptive, or acquired, immune system follows a slower course as the innate immune system is in place to help prevent infections.

**INFLAMMATION**
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**INFLAMMASOMES**
- PRRs, like NLR, recruit help to overcome threats, using inflammatory processes.
- Some NLRs can change shapes to create a multi-protein structure known as an inflammasome.
- The inflammasome is a molecular machine that activates inflammatory processes including programmed cell death, through the key protein, caspase-1.

**Innate Immune Diagram** offers a multitude of clinical targets and pathways across several therapeutic areas. With a focus on small molecules, IFM Therapeutics is developing therapies with systemic and targeted delivery options, as well as the potential for combination treatments.

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