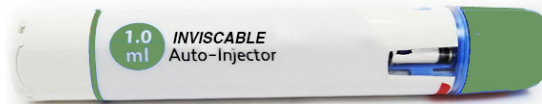


# Inviscable

## Viscous Drug Injectors



# The Need



## Key characteristics of antibody administration:

- Antibody formulations are usually administered in high volumes
- Self administration necessitate low volumes
- Antibody formulations can have high viscosities, which slow injection times and increase injection forces



## Challenges to manufacturers of Auto-Injectors:

- How to keep stringent standards of self-administration:
  - Needle gauge should stay thin (27 G)
  - Injection time should stay short (below 15 s)
- Spring mechanisms (state of the art) are prone to failure at high viscosities
- Spring mechanisms have difficulty in generating high forces which compromises injection time

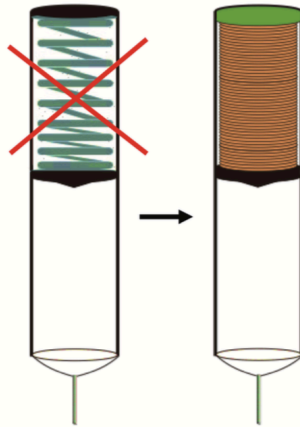
# Current Status

- Our team has developed a high performance actuating technology that could drive formulations with very high viscosities.
- The team has recently received internal-funding from Columbia University towards the development of an injector based on the technology.
- We identified potential values of the technology and we are seeking advice from drug formulators and other experts on the value propositions we should pursue, :
  - Possible reduction of the number of injections by half.
  - Increase in the speed of injections
  - A more reliable injector due to robustness of mechanism that has fewer moving parts than other technologies
  - No need for sophisticated electronics
- **We are looking for a part-time business advisor in the biomedical field to direct us in the right product development path and help us expand our network in the biopharmaceutical sector**

# Reliable Delivery For Viscous Drug Formulations - Technology Sheet

1

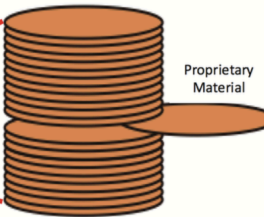
Innovative actuators **replacing spring mechanisms** in traditional Pre-Filled Syringes & Auto-Injectors.



2

Actuator

Schematic Actuator



Actuators are almost entirely consisting of one proprietary material. This minimizes the number of components needed in the mechanism of the injector, thus contributing to the **robustness of the device**.

3

Dry State

Hydrated State



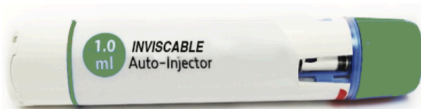
Water Introduction



The mode of operation of the injector is "**Hydration Based Actuation**", meaning that injection could be **operated solely** by exposing the material to **water**.

6

**Value Proposition**



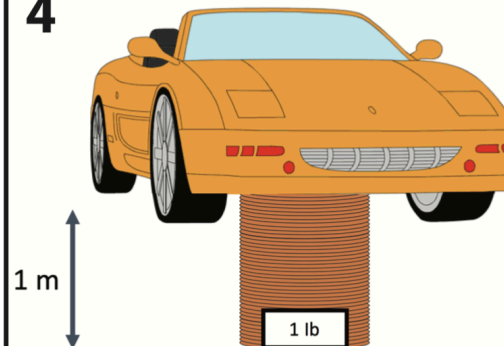
**X7** **1/2** **Minimum**  
**More Viscous** **# of Injections** **Device Failures**

5

**Intellectual Property Portfolio**

"Hydration Based Actuation" - claims: 1-4 in US Patent US13988857.  
"Hydration-Driven Auto-Injector" - Provisional application filed.

4



Actuator is **very powerful**. 1 lb of material could potentially lift a car 1 m above the ground. Currently actuator achieves 5% of that potential, sufficient for injection of viscous fluids up to **750 cP through 27 G needles**