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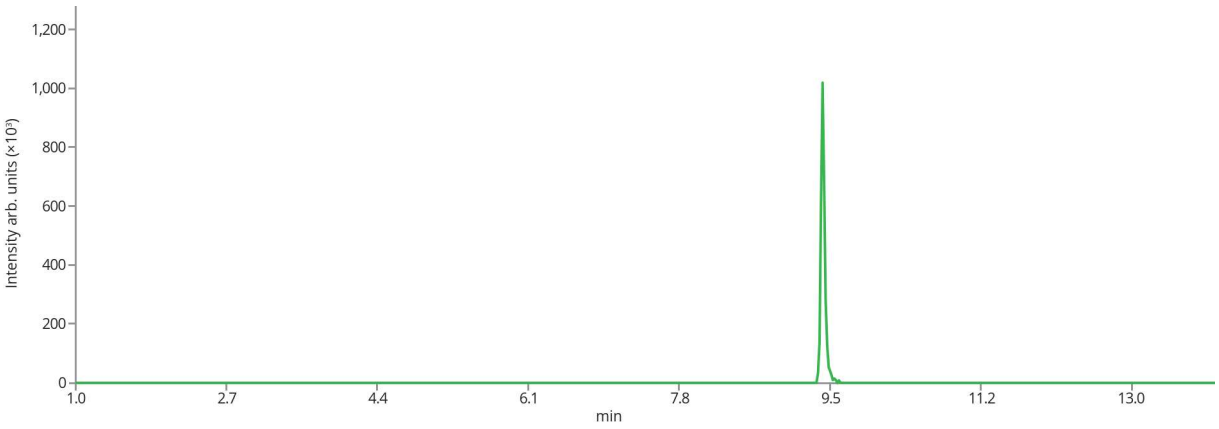
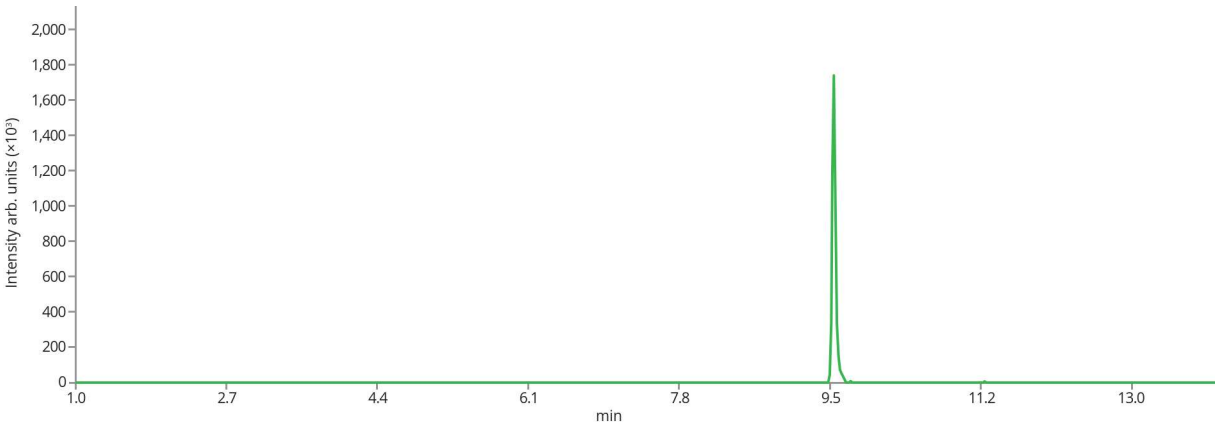
# Antidiabetic drugs

Diabetes is a chronic condition that occurs when the body cannot produce any or enough insulin, or cannot effectively use the insulin it produces. Type 2 diabetes has attained the status of a global pandemic. Sulfonylureas represent a class of medications used in the treatment of type 2 diabetes mellitus. All sulfonylureas contain a phenyl-sulfonyl-urea structure, which exerts the hypoglycemic effect. An efficient and reliable LC/MS method has been developed for control of antidiabetic medications of sulfonylurea class glibenclamide and glimepiride.



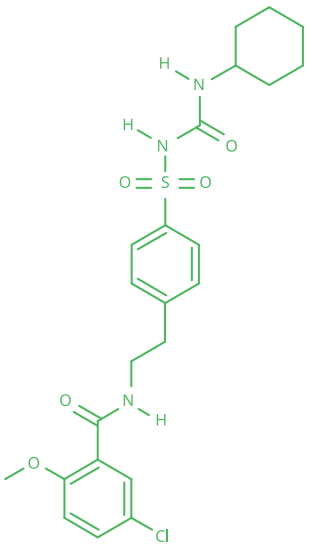

*Glibenclamide RT: 9.43, m/z 494.1516*



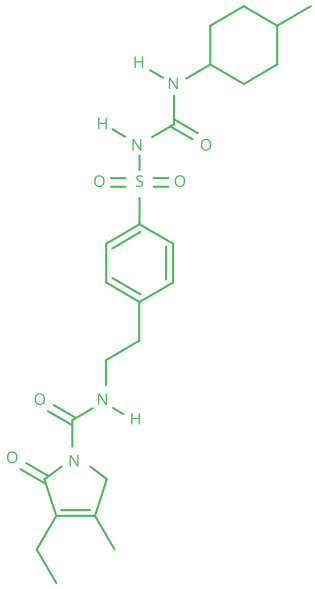

*Glimepiride RT: 9.56, m/z 491.2328*

# Antidiabetic drugs

| | | | | | | |
|---|---|---|---|---|---|---|
| **Column** | ASTRA® C18-HE, 3 µm | | | | | |
| **Dimensions** | 75 mm × 2.1 mm | | | | | |
| **Part number** | AST-5732-IH21 | | | | | |
| **Mobile phase** | A: DDW + 0.1% Formic Acid<br>B: ACN + 0.1% Formic Acid | | | | | |
| **Gradient elution** | **Time** | **A (%)** | **B (%)** | **Time** | **A (%)** | **B (%)** |
| | 0 | 90 | 10 | 14 | 0 | 100 |
| | 1 | 90 | 10 | 14.01 | 90 | 10 |
| | 4 | 75 | 25 | 15 | 90 | 10 |
| | 8 | 60 | 40 | 17 | 90 | 1 |
| | 10 | 0 | 100 | | | |
| **Flow rate** | 0.35 mL/min | | | | | |
| **Temperature** | 23 °C | | | | | |
| **Detection** | Full scan (resolving power 120 000, m/z 200), positive mode | | | | | |
| **Injection volume** | 5 µL | | | | | |
| **Analytes** | **1. Glibenclamide (glyburide)**, CAS number 10238-21-8<br>**2. Glimepiride**, CAS number 261361-60-8 | | | | | |



*Glibenclamide*



*Glimepiride*