Glucokinase
Hexokinase IV; Hexokinase D

Glucokinase is an enzyme that facilitates phosphorylation of glucose to glucose-6-phosphate. Glucokinase occurs in cells in the liver, pancreas, gut, and brain of humans and most other vertebrates. In each of these organs it plays an important role in the regulation of carbohydrate metabolism by acting as a glucose sensor, triggering shifts in metabolism or cell function in response to rising or falling levels of glucose, such as occur after a meal or when fasting. Glucokinase has a lower affinity for glucose than the other hexokinases do, and its activity is localized to a few cell types, leaving the other three hexokinases as more important preparers of glucose for glycolysis and glycogen synthesis for most tissues and organs. Mutations of the gene for this enzyme can cause unusual forms of diabetes or hypoglycemia.
### Glucokinase Activators

**AM-2394**
- **Cat. No.:** HY-100221
- AM-2394 is a structurally distinct glucokinase activator (GKA). AM-2394 activates glucokinase (GK) with an $EC_{50}$ of 60 nM.
- **Purity:** 99.35%
- **Clinical Data:** No Development Reported
- **Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

**AMG-1694**
- **Cat. No.:** HY-12614
- AMG-1694 is a potent glucokinase–glucokinase regulatory protein (GK-GKRP) disruptor and promotes the dissociation of the GK-GKRP complex with an $IC_{50}$ of 7 nM, indirectly increasing GK enzymatic activity.
- **Purity:** >98%
- **Clinical Data:** No Development Reported
- **Size:** 1 mg, 5 mg

**AMG-3969**
- **Cat. No.:** HY-12411
- AMG-3969 is a potent glucokinase–glucokinase regulatory protein interaction (GK-GKRP) disruptor with an $IC_{50}$ of 4 nM.
- **Purity:** 99.63%
- **Clinical Data:** No Development Reported
- **Size:** 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg, 100 mg

**Glucokinase activator 1**
- **Cat. No.:** HY-101788
- Glucokinase activator 1 is a liver-directed activator with an $EC_{50}$ of 34 nM.
- **Purity:** >98%
- **Clinical Data:** No Development Reported
- **Size:** 250 mg, 500 mg

**LY2608204**
- **Cat. No.:** HY-13529
- LY2608204 is a activator of glucokinase (GK) with an $EC_{50}$ of 42 nM.
- **Purity:** 98.18%
- **Clinical Data:** Phase 2
- **Size:** 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 50 mg

**MK-0941**
- **Cat. No.:** HY-19843
- MK-0941 is a potent, orally active and allosteric activator, with $EC_{50}$ values of 240 and 65 nM for recombinant human glucokinase in the presence of 2.5 and 10 mM glucose, respectively. MK-0941 has potential in the treatment of type 2 diabetes.
- **Purity:** >98%
- **Clinical Data:** No Development Reported
- **Size:** 1 mg, 5 mg

**PF-04991532**
- **Cat. No.:** HY-100181
- PF-04991532 is a potent, hepatoselective glucokinase activator with $EC_{50}$ values of 80 and 100 nM in human and rat, respectively.
- **Purity:** >98%
- **Clinical Data:** No Development Reported
- **Size:** 5 mg, 10 mg

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**Glucokinase Inhibitors & Modulators**

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- **Clinical Data:** No Development Reported
- **Size:** 5 mg, 10 mg
### PSN-GK1  
Cat. No.: HY-U00411

PSN-GK1 is a potent glucokinase activator with an EC<sub>50</sub> of 0.13 μM.

**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg, 10 mg, 20 mg

### Ro 28-1675  
Cat. No.: HY-10595

Ro 28-1675 (Ro 0281675) is a potent allosteric GK activator with a SC1.5 value of 0.24± 0.0019 μM.

**Purity:** 99.89%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg