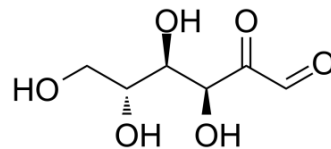


## 2-Keto-D-Glucose

|                    |   |
|--------------------|---|
| Cat. No.:          | HY-113629   |
| CAS No.:           | 1854-25-7   |
| Molecular Formula: | C <sub>6</sub> H <sub>10</sub> O <sub>6</sub>   |
| Molecular Weight:  | 178.14  |
| Target:            | Others  |
| Pathway:           | Others  |
| Storage:           | Please store the product under the recommended conditions in the Certificate of Analysis. |



### BIOLOGICAL ACTIVITY

|                    |  |
|--------------------|--|
| <b>Description</b> | 2-Keto-D-Glucose (D-Glucosone) is a key intermediate in a secondary metabolic pathway leading to the antibiotic Cortalcerone. 2-Keto-D-Glucose is also an intermediate in the conversion of D-glucose into D-fructose. 2-Keto-D-Glucose is found in various natural sources, including fungi, algae, and shellfish <sup>[1][2]</sup> .   |
| <b>In Vitro</b>    | Pyrrroquinoline quinone-dependent 2-keto-D-glucose (2KG) dehydrogenase (2KGDH) has high specificity for the oxidation of 2-Keto-D-Glucose to 2-keto-D-gluconic acid (2KGA). <i>P. aureofaciens</i> (Pa2KGDH) specifically preferred 2KG as a substrate and oxidized the C-1 position of 2KG, indicating that the enzyme is a 2KGDH <sup>[3]</sup> .<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

### REFERENCES

- [1]. Sun, Lianhong, et al. Engineering galactose oxidase to increase expression level in *E. coli*, enhance thermostability, and introduce novel activities. Dissertation (Ph.D.), California Institute of Technology.
- [2]. zawa K, et al. A novel pyrroquinoline quinone-dependent 2-keto-D-glucose dehydrogenase from *Pseudomonas aureofaciens*. *J Bacteriol.* 2015 Apr;197(8):1322-9.
- [3]. Te-ning E.Liu, et al. Convenient, laboratory procedure for producing solid d-arabino-hexos-2-ulose (d-glucosone). *Carbohydrate Research.* Volume 113, Issue 1, 16 February 1983, Pages 151-157.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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