

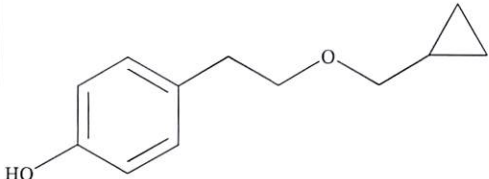
Certificate of Analysis

Certificate No.: **20221222505**

Date: December 22, 2022

Retest date: December 21, 2025

| | |
|---|--|
| Compound Name: Betaxolol EP Impurity D | |
| Synonyms: | 4-(2-(cyclopropylmethoxy)ethyl)phenol |
| TLC Catalogue Number: | B-146 |
| CAS Number: | 63659-16-5 |
| Molecular Weight: | 192.26 |
| Molecular Formula: | C ₁₂ H ₁₆ O ₂ |
| Source: | TLC Pharmaceutical Standards |
| Source Lot No.: | 3942-049A2 |
| Storage Conditions: | Store at 2-8 °C |
| Solubility: | Methanol |



| Test Description | Specifications | Results |
|--------------------------------|---------------------------------|-----------------|
| Visual Description | Colorless liquid | Conforms |
| Identification | | |
| IR | Conforms to structure | Conforms |
| MS | Conforms to structure | Conforms |
| ¹ H NMR | Conforms to structure | Conforms |
| Purity (HPLC) | Not less than 95.0% | 99.0% |
| Impurity (HPLC) | RT 1.57, 0.43%; RT 19.39, 0.30% | |
| Water Content (KF) | N/A | 0.8% |
| Residual Solvents (NMR) | 1.2% ethyl acetate | |
| Assay (%) | Not less than 90.0% | 97.0% |
| Recommendation: | Release. | |

| Name | Department | Signature | Date |
|---------------------------|-------------------|------------------|------------|
| Reviewed and approved by: | Quality Control | <i>Kevin Zhu</i> | 12/23/2022 |
| Approved by: | Quality Assurance | <i>Kan</i> | 12/23/2022 |

Attachments: HPLC, IR, MS and NMR spectra.