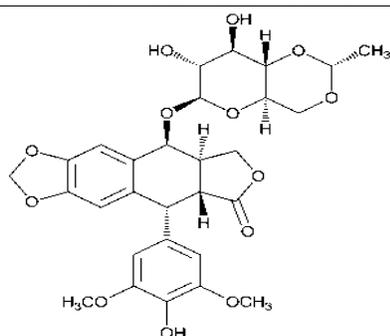
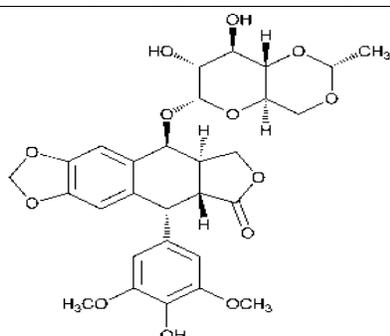
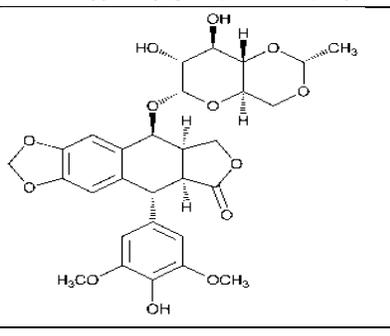


Certificate

ETOPOSIDE RESOLUTION MIXTURE

| | |
|------------------|---------|
| USP Catalog No.: | 1268852 |
| USP Lot No.: | F1M482 |

Only compendial components as listed in the monograph are shown below

| | | | | | | | |
|--|---|---------|------------|-------------------|---|------------------|--------|
| Etoposide <i>((5R,5aR,8aR,9S)-9-[4,6-O-(R)-Ethylidene-β-D-glucopyranosyloxy]-5,8,8a,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one)</i> | | | | | | | |
|  | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right; padding-right: 10px;">CAS No.</td> <td>33419-42-0</td> </tr> <tr> <td style="text-align: right; padding-right: 10px;">Molecular Formula</td> <td>C₂₉H₃₂O₁₃</td> </tr> <tr> <td style="text-align: right; padding-right: 10px;">Molecular Weight</td> <td>588.56</td> </tr> </table> | CAS No. | 33419-42-0 | Molecular Formula | C ₂₉ H ₃₂ O ₁₃ | Molecular Weight | 588.56 |
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| Molecular Formula | C ₂₉ H ₃₂ O ₁₃ | | | | | | |
| Molecular Weight | 588.56 | | | | | | |
| α-Etoposide <i>((5R,5aR,8aR,9S)-9-[4,6-O-(R)-Ethylidene-α-D-glucopyranosyloxy]-5,8,8a,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one)</i> | | | | | | | |
|  | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right; padding-right: 10px;">CAS No.</td> <td>N/A</td> </tr> <tr> <td style="text-align: right; padding-right: 10px;">Molecular Formula</td> <td>C₂₉H₃₂O₁₃</td> </tr> <tr> <td style="text-align: right; padding-right: 10px;">Molecular Weight</td> <td>588.56</td> </tr> </table> | CAS No. | N/A | Molecular Formula | C ₂₉ H ₃₂ O ₁₃ | Molecular Weight | 588.56 |
| CAS No. | N/A | | | | | | |
| Molecular Formula | C ₂₉ H ₃₂ O ₁₃ | | | | | | |
| Molecular Weight | 588.56 | | | | | | |
| Picro-Etoposide <i>((5R,5aS,8aR,9S)-9-[4,6-O-(R)-Ethylidene-β-D-glucopyranosyloxy]-5,8,8a,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one)</i> | | | | | | | |
|  | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right; padding-right: 10px;">CAS No.</td> <td>N/A</td> </tr> <tr> <td style="text-align: right; padding-right: 10px;">Molecular Formula</td> <td>C₂₉H₃₂O₁₃</td> </tr> <tr> <td style="text-align: right; padding-right: 10px;">Molecular Weight</td> <td>588.56</td> </tr> </table> | CAS No. | N/A | Molecular Formula | C ₂₉ H ₃₂ O ₁₃ | Molecular Weight | 588.56 |
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| Molecular Formula | C ₂₉ H ₃₂ O ₁₃ | | | | | | |
| Molecular Weight | 588.56 | | | | | | |

LABEL TEXT



Lot No.: F1M482

USP REFERENCE STANDARD

ETOPOSIDE RESOLUTION MIXTURE 30 mg

Danger! Harmful if swallowed. May cause cancer. May damage fertility or the unborn child.
Causes damage to organs (bone marrow) through prolonged or repeated exposure.

Mixture contains, in order of elution, etoposide, α -etoposide, and micro-etoposide
(approximate ratio of 5.3:1:1.4 by peak area). Do not dry. Keep container tightly closed.
Protect from light. Store in a refrigerator. See accompanying Typical Chromatogram.



USP, 12601 Twinbrook Pkwy, Rockville, MD, +1-301-881-0666
CAT No. 1268852 Material mfd in Ireland
Intentionally over-labeled for GHS compliance

For use with specified USP compendial tests. Not for use as a drug. See SDS prior to use at www.usp.org/leds.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If exposed or concerned: Get medical advice/attention. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.

Jeri L. Joth
Quality Assurance

Calculation Value

Unless otherwise stated on the Reference Standard label, a value of 100.0% should be used in the compendial applications for which the use of this Reference Standard is intended. Please refer to the specific Reference Standard label for further information.

Expiration

Current lots are identified in the current USP Catalog. In some cases, the previous lot may still be considered valid for use. If so, it is identified in the column marked "Previous Lot/Valid Use Date."

It is the responsibility of each user to determine that this lot is current or valid when used. For the most up-to-date information, please refer to the USP Store at www.usp.org.

Instructions for Use

Follow the instructions on the label of the USP Reference Standard and in the appropriate USP documentary standard(s).

Non-Monograph Use

The suitability of this Reference Standard for use in non-compendial applications is solely the responsibility of the user.

LEGAL NOTICE

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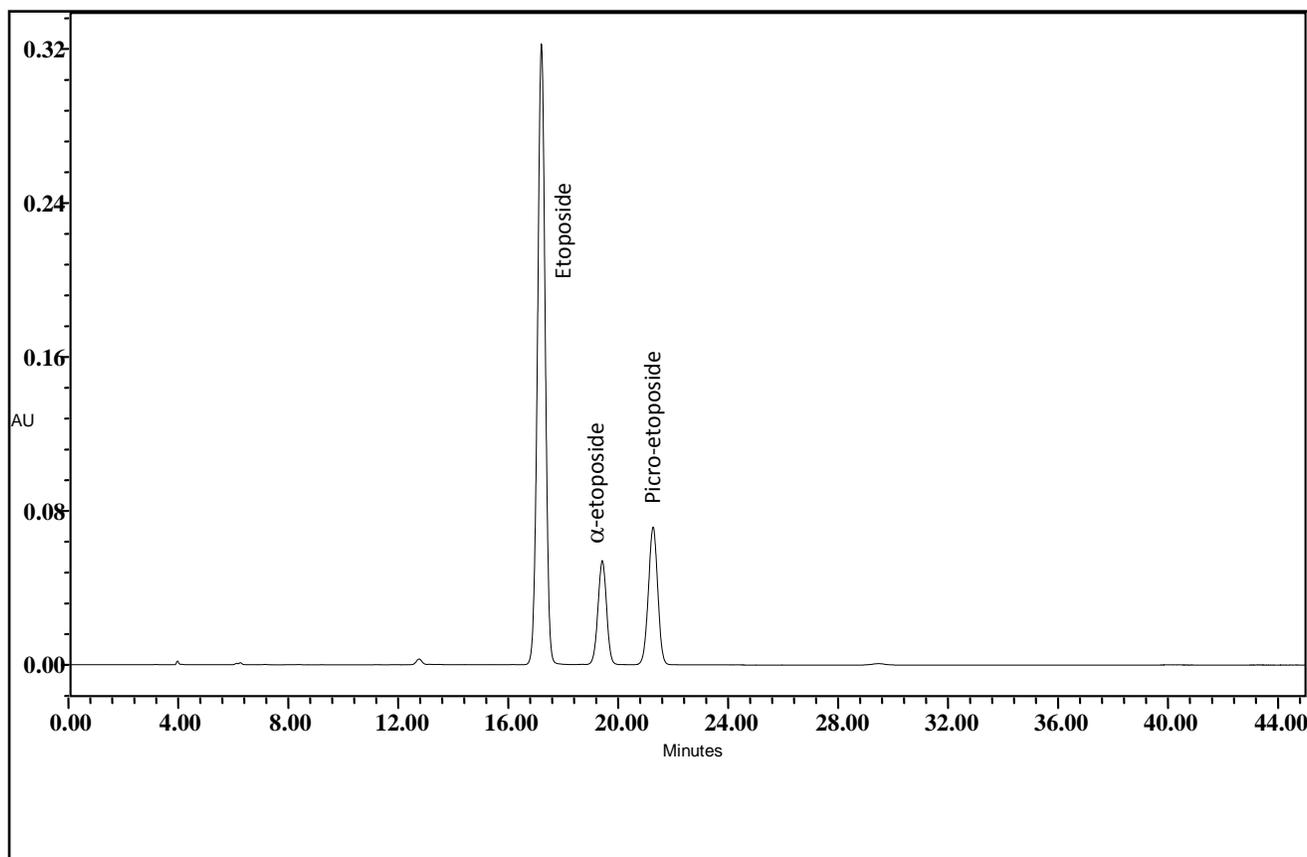
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Typical Chromatogram

USP Etoposide Resolution Mixture RS

| |
|--|
| Catalog Number: 1268852 |
| Lot: F1M482 |
| Monograph: Etoposide |
| Publication: USP 36-NF 31 |
| Test: Assay |
| Sample: 1.0 mg/mL in mobile phase |



This chromatogram is supplied for information only, unless otherwise specified in an applicable monograph or general chapter.