5 alpha Reductase

5α-reductase

Steroid 5-α reductase (5AR) is a membrane-bound protein that is responsible for reducing steroids such as testosterone, progesterone, and androstenedione to 5-α reduced metabolites such as 5-α dihydrotestosterone (DHT), 5-α dihydroprogesterone and androstanedione, respectively. There are three isoforms of 5AR in humans: SRD5A1, SRD5A2, and SRD5A3. SRD5A1 and SRD5A2 have functionality for 5-α reduction of steroids in humans. DHT is a more potent androgen than testosterone and has a function in androgen receptor activation.

The inactivating mutations in 5αR2 lead to disorders of sexual development. The regulation of 5AR is important for the treatment of benign prostate hyperplasia (BPH) and prostate cancer (PC), and 5AR inhibitors are widely used for the treatment of androgen-dependent benign or malignant prostatic diseases.
## 5 alpha Reductase Inhibitors

| **12-O-Methylcarnosic acid**  
(12-Methoxycarnosic acid) | **Cat. No.:** HY-N7510 |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>12-O-Methylcarnosic acid (12-Methoxycarnosic acid), a diterpene carnosic acid isolated from the acetone extract of <em>Salvia microphylla</em>, is an active constituent of <strong>5α-reductase</strong> inhibition with an <strong>IC</strong>$_{50}$ value of 61.7 μM.</td>
<td></td>
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</tbody>
</table>
| **Purity:** 99.72%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg, 10 mg |

<table>
<thead>
<tr>
<th><strong>5α-reductase-IN-1</strong></th>
<th><strong>Cat. No.:</strong> HY-U00376</th>
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</thead>
<tbody>
<tr>
<td>5α-reductase-IN-1 is an inhibitor of 5α-reductase, used for the research of patterned alopecia in combination with minoxidil.</td>
<td></td>
</tr>
</tbody>
</table>
| **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg |

| **Alpha-Estradiol**  
(Alfatradiol; Epiestradiol; Epiestrol) | **Cat. No.:** HY-B0141A |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Alpha-Estradiol is a weak estrogen and a <strong>5α-reductase</strong> inhibitor which is used as a topical medication in the treatment of androgenic alopecia.</td>
<td></td>
</tr>
</tbody>
</table>
| **Purity:** 99.77%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 100 mg, 500 mg |

| **Alpha-Estradiol-d2**  
(Alfatradiol-d2; Epiestradiol-d2; Epiestrol-d2) | **Cat. No.:** HY-B0141A1 |
<table>
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<tbody>
<tr>
<td>Alpha-Estradiol-d2 is the deuterium labeled Alpha-Estradiol. Alpha-Estradiol is a weak estrogen and a 5α-reductase inhibitor which is used as a topical medication in the treatment of androgenic alopecia.</td>
<td></td>
</tr>
</tbody>
</table>
| **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg |

<table>
<thead>
<tr>
<th><strong>CGP-53153</strong></th>
<th><strong>Cat. No.:</strong> HY-U00125</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGP-53153 is a steroidal inhibitor of <strong>5α-reductase</strong> with <strong>IC</strong>$_{50}$ of 36 and 262 nM in rat and human prostatic tissue, respectively.</td>
<td></td>
</tr>
</tbody>
</table>
| **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg |

| **Dutasteride**  
(GG 745; GI 198745) | **Cat. No.:** HY-13613 |
<table>
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<tbody>
<tr>
<td>Dutasteride (GG745) is a potent inhibitor of both <strong>5α-reductase</strong> isozymes. Dutasteride may possess off-target effects on the androgen receptor (AR) due to its structural similarity to DHT.</td>
<td></td>
</tr>
</tbody>
</table>
| **Purity:** 99.75%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 10 mg, 50 mg, 100 mg |

| **Epristeride**  
(ONO-9302; SKF105657) | **Cat. No.:** HY-107385 |
<table>
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<tbody>
<tr>
<td>Epristeride is a novel <strong>5α-reductase</strong> inhibitor.</td>
<td></td>
</tr>
</tbody>
</table>
| **Purity:** 99.96%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 25 mg |

| **Finasteride**  
(MK-906) | **Cat. No.:** HY-13635 |
<table>
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<tbody>
<tr>
<td>Finasteride (MK-906) is a potent and competitive <strong>5α-reductase</strong> inhibitor, with an <strong>IC</strong>$_{50}$ of 4.2 nM for type II 5α-reductase. Finasteride has approximately a 100-fold greater affinity for type II 5α-reductase enzyme than for the type I enzyme.</td>
<td></td>
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</tbody>
</table>
| **Purity:** 99.97%  
**Clinical Data:** Launched  
**Size:** 10 mM × 1 mL, 100 mg, 200 mg |

| **Finasteride acetate**  
(MK-906 acetate) | **Cat. No.:** HY-13635A |
<table>
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<tr>
<td>Finasteride (MK-906) acetate is a potent and competitive <strong>5α-reductase</strong> inhibitor, with an <strong>IC</strong>$_{50}$ of 4.2 nM for type II 5α-reductase. Finasteride acetate has approximately a 100-fold greater affinity for type II 5α-reductase enzyme than for the type I enzyme.</td>
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</tbody>
</table>
| **Purity:** >98%  
**Clinical Data:** Launched  
**Size:** 1 mg, 5 mg |

| **Finasteride-d9**  
(MK-906-d9) | **Cat. No.:** HY-13635S |
<table>
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<tbody>
<tr>
<td>Finasteride-d9 is deuterium labeled Finasteride. Finasteride (MK-906) is a potent and competitive <strong>5α-reductase</strong> inhibitor, with an <strong>IC</strong>$_{50}$ of 4.2 nM for type II 5α-reductase.</td>
<td></td>
</tr>
</tbody>
</table>
| **Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg |
LY191704  
LY191704, as a benzoquinolinone, is a potent, nonsteroidal, noncompetitive and selective human type I 5α-reductase inhibitor. LY191704 is a racemic mixture of the compounds LY300502 and LY300503.  
Purity: >98%  
Clinical Data: No Development Reported  
Size: 1 mg, 5 mg

Stigmasterol glucoside  
Stigmasterol glucoside is a sterol isolated from P. urinaria with high antioxidant and anti-inflammatory activities, act as an inhibitor of 5α-reductase with an IC₅₀ of 27.2µM.  
Purity: >98%  
Clinical Data: No Development Reported  
Size: 1 mg, 5 mg