**In vivo Pharmacology:**
PMA Induced Ear Edema in Mice

<table>
<thead>
<tr>
<th>Species, strain, sex:</th>
<th>mouse, CD1, male</th>
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</thead>
<tbody>
<tr>
<td>Number of animals per group:</td>
<td>n=8</td>
</tr>
<tr>
<td>Pharmacological control:</td>
<td>dexamethasone</td>
</tr>
<tr>
<td>Routes of administration:</td>
<td>topical, PO, SC, IV, IM</td>
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<tr>
<td>Treatment mode:</td>
<td>prophylactic, therapeutic</td>
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<tr>
<td>Duration of dosing:</td>
<td>1 day or upon request</td>
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**Main read-outs:**
- Ear weight

**Facultative read outs:**
- inflammatory mediators in ear homogenates
- histopathology
- immunohistochemistry

Topically administered PMA induces Th1 inflammatory reaction manifested as vascular leakage, polymorphonuclear infiltration and increased release of IL-1β and TNF-α in ear tissue. Six hours after PMA application ear swelling is observed. Anti-inflammatory activity of test compounds is evaluated by ear weighing. Ear tissue and other selected tissues can be stored for subsequent analyses.

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**Efficacy of dexamethasone in PMA induced ear edema in CD1 mice_topical administration**

![Graph showing the efficacy of dexamethasone on ear edema weight](image)

*p < 0.05 vs. Vehicle; Kruskal-Wallis with Dunn's multiple comparison test.*

**Reproducibility of response to dexamethasone**

![Graph showing reproducibility of response to dexamethasone](image)

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**References**
