**Introduction**

- **SB204**, a nitric oxide-releasing drug candidate, is in development for the treatment of acne vulgaris.
- The active ingredient in SB204 is NVN1000, a polysiloxane macromolecule that stores nitric oxide on the skin's surface.
- SB204 is the first nitric oxide-releasing and broad-spectrum antimicrobial agent.
- Three studies with SB204 4% applied once daily in adolescents assessed:
  - **Pharmacokinetics**: In five healthy young men under placebo conditions.
  - **Safety** (NI-AC103, NI-AC301, and NI-AC302).
  - **Efficacy** (NI-AC103 and NI-AC302).

**Immunomodulatory and Antimicrobial Activity of Nitric Oxide in Acne**

- Nitric oxide inhibits the TLR4 inflammasome, decreasing the downstream release of IL-1β and IL-17, as well as, kills M. acnes.

**Primary efficacy endpoints assessed:**

- **Non-Inflammatory Lesions**:
  - NI-AC301/302

  - **SB204 4% QD**: 87.7% at Week 12
  - **Vehicle**: 78.9% at Week 12

- **Inflammatory Lesions**:
  - NI-AC301/302

  - **SB204 4% QD**: 76.7% at Week 12
  - **Vehicle**: 66.0% at Week 12

**Safety** (NI-AC103, NI-AC301, and NI-AC302):

- **Exfoliation**: 93.5% at Week 12
- **Swelling**: 17.8% at Week 12
- **Dryness**: 88.8% at Week 12
- **Pain**: 10.7% at Week 12
- **Pruritus**: 0.0% at Week 12

**SB204 4% QD (n = 44)**: In NI-AC301, there were no statistically significant differences in nitrate PK parameters at baseline and following treatment with SB204 4%

**SB204 4% QD (n = 44)**: In NI-AC302, there was no detectable hMAP3 in any subject, at all timepoints, and for all treatments studied, including under maximal use conditions.

**Number of AEs**

- **SB204 4% QD**: 439 AEs
- **Vehicle QD**: 437 AEs

**Conclusion**

- In the open-label pharmacokinetic study (NI-AC301) in adolescents aged 10-17 yrs, at all timepoints,
- The active ingredient in SB204 is NVN1000, a polysiloxane macromolecule that stores nitric oxide on the skin's surface.
- **SB204 4% QD** was well tolerated in adolescents with moderate to severe acne, with no serious adverse events reported.
- **SB204 4% QD** demonstrated a statistically significant reduction in inflammatory acne lesions compared to the vehicle group.
- **SB204 4% QD** was found to be safe and effective in adolescents with moderate to severe acne, with no serious adverse events reported.
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