Efficacy, Tolerability and Safety of SB204 Gel in Adolescents (9 to 17 Years of Age) With Acne Vulgaris

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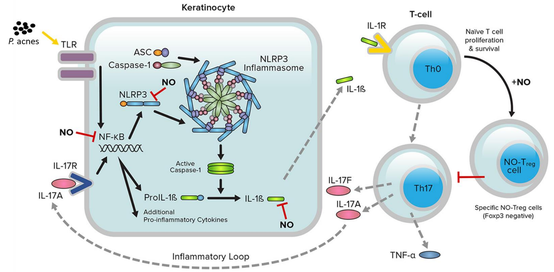
Introduction

- SB204, a nitric oxide-releasing topical drug candidate, is in development for the treatment of acne vulgaris
- SB204 was previously evaluated in two replicate, multi-center, randomized, double-blinded, vehicle-controlled, parallel group trials with >2600 subjects with moderate-to-severe acne (NI-AC301 and NI-AC302)
  - Acne vulgaris is a common skin disease in adolescents
  - A post hoc analysis was conducted on a subset of 905 adolescents ranging from ages 9 to 17 years old
- SB204 has potential immunomodulating and broad-spectrum antimicrobial activity

Immunomodulatory Activity of Nitric Oxide in Acne

Nitric oxide inhibits the NLRP3 inflammasome, decreasing the downstream release of IL-1β and IL-17, as well as, kills *P. acnes*



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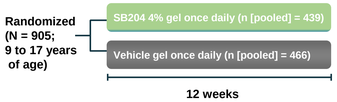
Study Overview

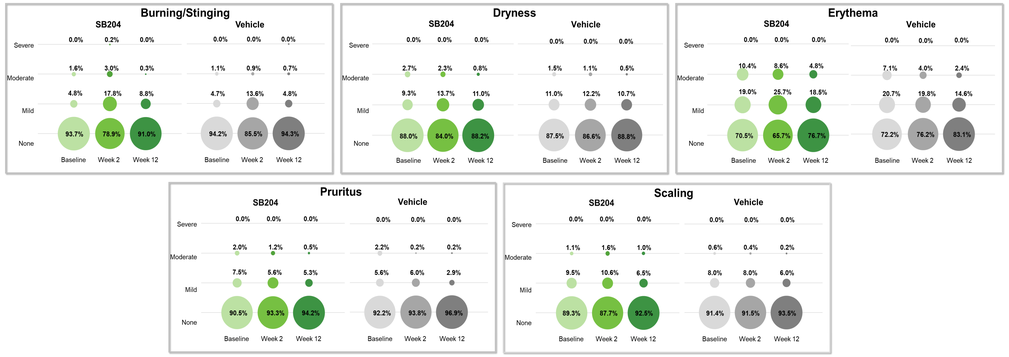


- SB204 4% gel (~900mg) or vehicle (~900mg) were applied once daily to the entire face
- Efficacy endpoints assessed:
  - Absolute change in inflammatory, noninflammatory and total lesion counts from baseline to week 12
  - Success on Investigator's Global Assessment (IGA) at week 12 (IGA success was defined as a score of clear (0) or almost clear (1) and ≥2 grades less than baseline)

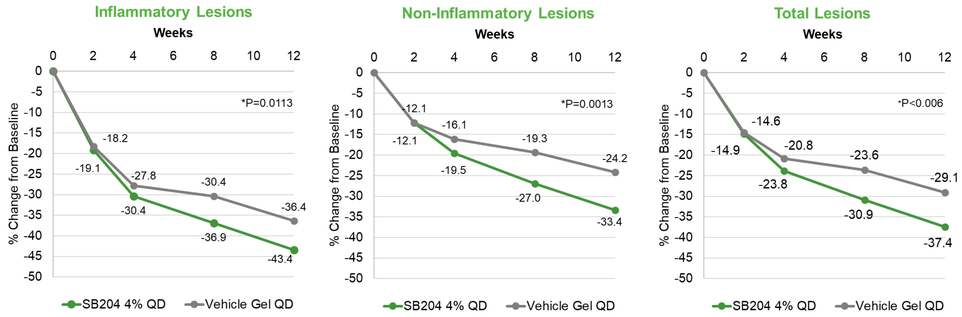
Demographics

NI-AC301 and NI-AC302		
	SB204 4% (n, pooled = 439)	Vehicle (n, pooled = 466)
Gender, n		
Male	228 (52%)	255 (55%)
Female	211 (48%)	211 (45%)
Age, mean	14	14
Baseline, mean (SD)		
Inflammatory Lesion Count	28 (5.7)	28 (5.9)
Non-Inflammatory Lesion Count	42 (13)	42 (13)
Total Lesions	70 (15)	70 (16)
Baseline IGA Scores		
"Moderate" or a score of 3	377 (86%)	401 (86%)
"Severe" or a score of 4	62 (14%)	65 (14%)
Disposition, n		
Completed	397 (90%)	421 (90%)
Discontinued	42 (10%)	45 (10%)

Tolerability Results

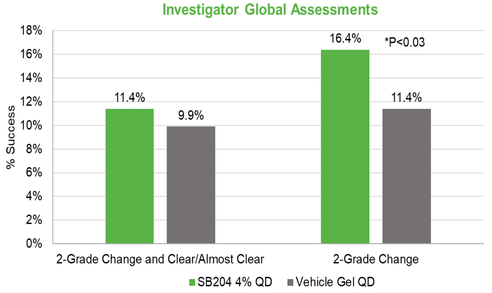


Efficacy Results



*P-values are based on analysis of covariance, using LOCF imputation (ITT population)

Investigator Global Assessment Scoring	
Grade	Description
0	Clear: Clear skin with no inflammatory or non-inflammatory lesions
1	Almost clear: Rare non-inflammatory lesions with rare papules (papules may be resolving and hyperpigmented, though not pink-red)
2	Mild: Some non-inflammatory lesions with no more than a few inflammatory lesions
3	Moderate: Up to many non-inflammatory lesions and may have some inflammatory lesions, but no more than one nodulocystic lesion
4	Severe: Up to many non-inflammatory and inflammatory lesions, but no more than a few nodulocystic lesions



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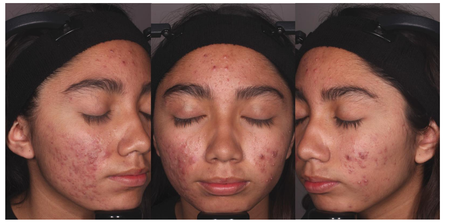
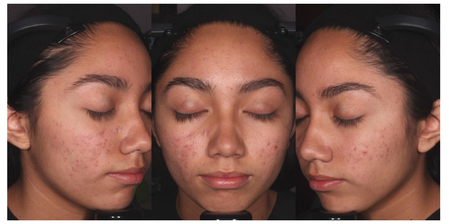
Representative Clinical Photos from SB204 4% Treatment Group

Baseline



Week 12



Treatment Emergent Adverse Events (TEAEs)

NI-AC301/302 n overall incidence (%)						
	# of AEs	Dermatitis	Dryness	Erythema	Exfoliation	Pain
SB204 4%	23	1 (0.23%)	3 (0.68%)	2 (0.46%)	1 (0.23%)	7 (1.59%)
Vehicle	15	0 (0.0%)	1 (0.21%)	3 (0.64%)	2 (0.43%)	5 (1.07%)
	Pruritus	Rash	Reaction	Swelling	Malaise	Pyrexia
SB204 4%	3 (0.68%)	2 (0.46%)	1 (0.23%)	1 (0.23%)	1 (0.23%)	1 (0.23%)
Vehicle	2 (0.43%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.21%)

Conclusions

- In a subset of only adolescent subjects (9 to 17 years of age) treated with topical SB204 4% once-daily, there was a statistically significant reduction ($p<0.05$) in inflammatory, non-inflammatory and total lesion reductions with SB204 4% compared to vehicle
  - The percent change from baseline in the number of non-inflammatory lesions was -33.4% for SB204 and -24.2% for vehicle ($p=0.0013$)
  - The percent change from baseline in the number of inflammatory lesions was -43.4% for SB204 and -36.4% for vehicle ($p=0.0113$)
  - The percent change from baseline in the number of total lesions was -37.4% for SB204 and -29.1% for vehicle ($p<0.001$)
  - Statistical significance was achieved for IGA assessment of 2-grade change from baseline
- All doses of SB204 administered in the studies were well tolerated and the adverse event profile was similar in active and vehicle treated subjects

Post-hoc analysis conducted by IQVIA