EMPOWERING PATIENTS THROUGH
REVELATIONARY
SCIENCE

AGA-201 Data

Phase 2 open-label clinical trial evaluating the safety and efficacy of ATI-502, an investigational topical JAK1/3 inhibitor, on the regrowth of hair in patients with androgenetic alopecia (AGA), also known as male/female pattern hair loss.

June 2019

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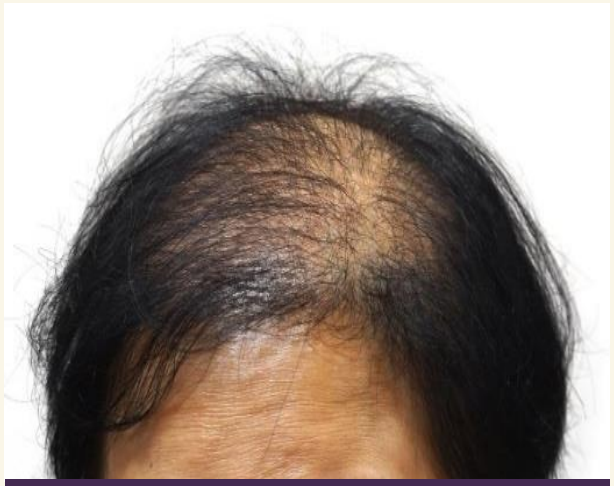
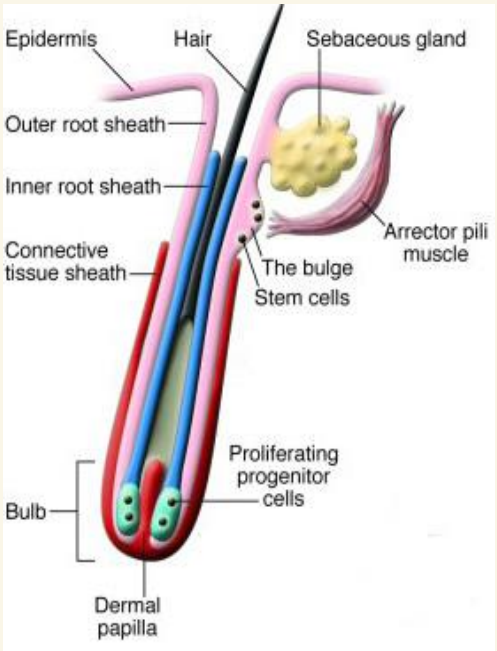
Androgenetic Alopecia (AGA): Male/Female pattern hair loss

- AGA is a genetic disorder and the most common cause of hair loss[1]
- Experienced by 70% of men and 40% of women at some point in their lives[1]; affects ~50 million men and ~30 million women in the US[2]
- Affected individuals highly motivated to seek treatment[1]
- Potential benefits of topical JAK inhibitor in AGA:
  - ✓ New mechanism of action
  - ✓ Minimal systemic side effects
  - ✓ Non-hormonal
  - ✓ Novel option for women with AGA

Male with AGA



Female with AGA



Cotsarelis, G. *J Clin Invest*. 2006;116(1):19-22.

[1] McElwee, K. J., & Shapiro, J. Promising Therapies for Treating and/or Preventing Androgenic Alopecia. https://www.skintherapyletter.com/alopecia/promising-therapies/. Published June 1, 2012. Accessed May 13, 2019.
[2] National Institutes of Health. Androgenetic alopecia. https://ghr.nlm.nih.gov/condition/androgenetic-alopecia#statistics. Accessed March 30, 2019.

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AGA – New Mechanism of Action Postulated

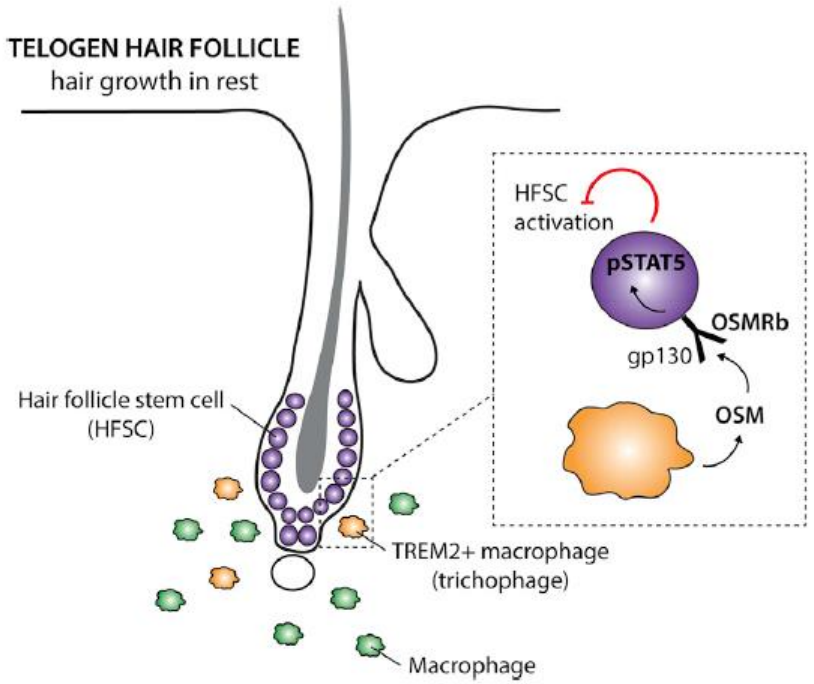

Figure 1. Role of TREM2+ Macrophages in Skin
Dermal TREM2+ macrophages, now termed "Trichophages," reside in close proximity to hair follicles. During telogen—the hair cycle phase when hair is not growing—trichophages produce the cytokine OSM that binds to OSM receptors on hair follicle stem cells (HFSCs). This triggers phosphorylation of STAT5 within HFSCs, impairing their activation, and therefore resulting in maintenance of telogen.

- Tissue-resident immune cells with potent sensing and effector functions are well-placed to fundamentally aid tissue homeostasis via crosstalk with stem cells.
- A dermis-resident TREM2+ macrophage subpopulation that promotes hair follicle stem cell (HFSC) quiescence via cytokine-mediated JAK-STAT signaling has been identified.
- pSTAT5 (the p indicates that STAT5 is in the ON position – ie: active, and then a red curved arrow blocks HFSC activation (this is telogen)
- The administration of a JAK inhibitor would turn the pSTAT5 to the OFF position, and then opens the red arrow and PROMOTES HFSC activation.

*Dalessandri, T and Kasper, M. TREMendous Macrophages Inhibit Hair Growth *Cell Stem Cell 24, 501-2* April 4, 2019 - 2019 Published by Elsevier Inc.
https://doi.org/10.1016/j.stem.2019.03.014

AGA-201: Male and Female Subjects With Androgenetic Alopecia (AGA) Treated With ATI-502

Open-Label Study*[1]

Eligibility

- AGA Diagnosis
- Males: Norwood-Hamilton Type III vertex, IV or V
- Females: Sinclair Grade 2, 3 or 4

N=31

Treatment
26 weeks

ATI-502 (0.46%) BID

Assessment
(Baseline and Week 26)

Key Endpoints

Primary Endpoint
- Change in non-vellus Total Area Hair Count (TAHC) at week 26

Secondary Endpoints
- Investigator Global Assessment (IGA)
- Subject Self Assessment (SSA)

Safety & Tolerability

Efficacy and Safety 12-month endpoint

ATI-502 (0.46%) BID

(Ongoing)

*3 US clinical sites
[1]ClinicalTrials.gov ID NCT03495817

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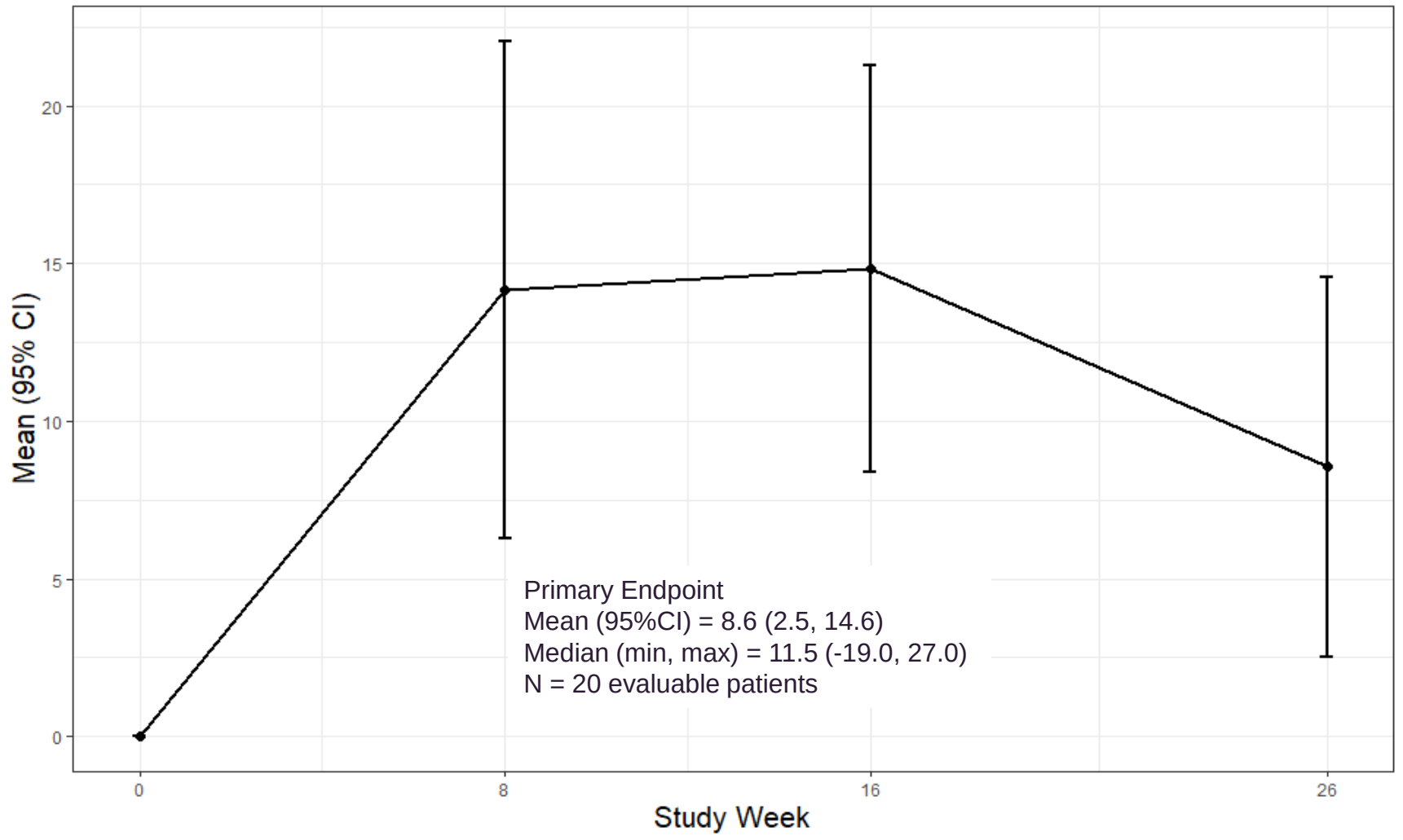
AGA-201: Primary Endpoint - Mean Change from Baseline in Non-Vellus Target Area Hair Count (TAHC) at Week 26



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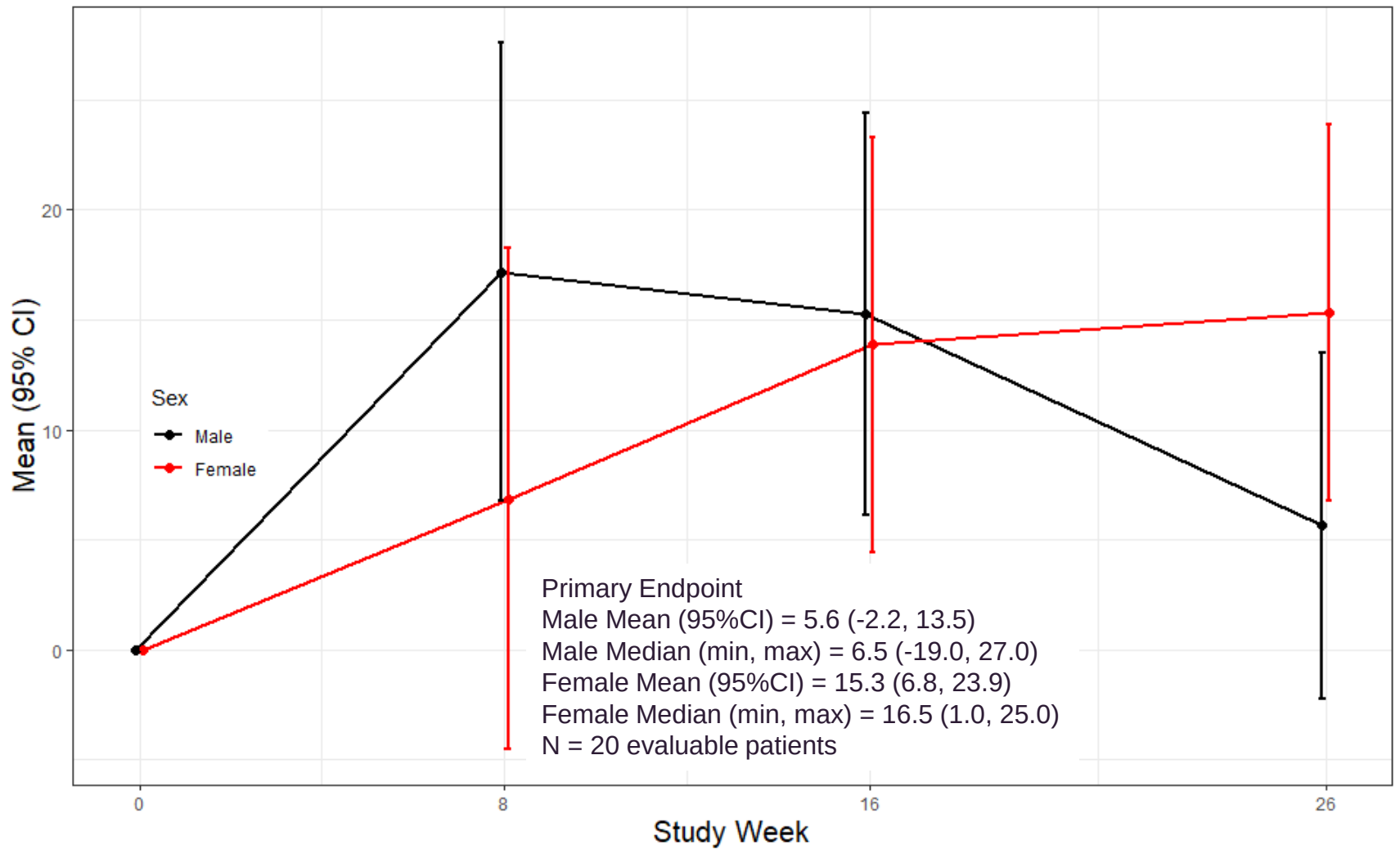
AGA-201: Primary Endpoint - Mean Change from Baseline in Non-Vellus Target Area Hair Count (TAHC) at Week 26 By Gender



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AGA-201: Secondary Endpoints - Investigator Global Assessment (IGA) and Subject Self-Assessment (SSA)

Response Rates for IGA and SSA

Sex (N)	Week	IGA N (%)	SSA N (%)
Male (15)	26	12/15 (80.0)	13/15 (86.7)
Female (7)	26	4/7 (57.1)	5/7 (71.4)
Total (22)	**26**	**16/22 (72.7)**	**18/22 (81.8)**

Grade	Description
-3	Greatly decreased hair growth
-2	Moderately decreased hair growth
-1	Slightly decreased hair growth
0	No change
+1	Slightly increased hair growth
+2	Moderately increased hair growth
+3	Greatly increased hair growth

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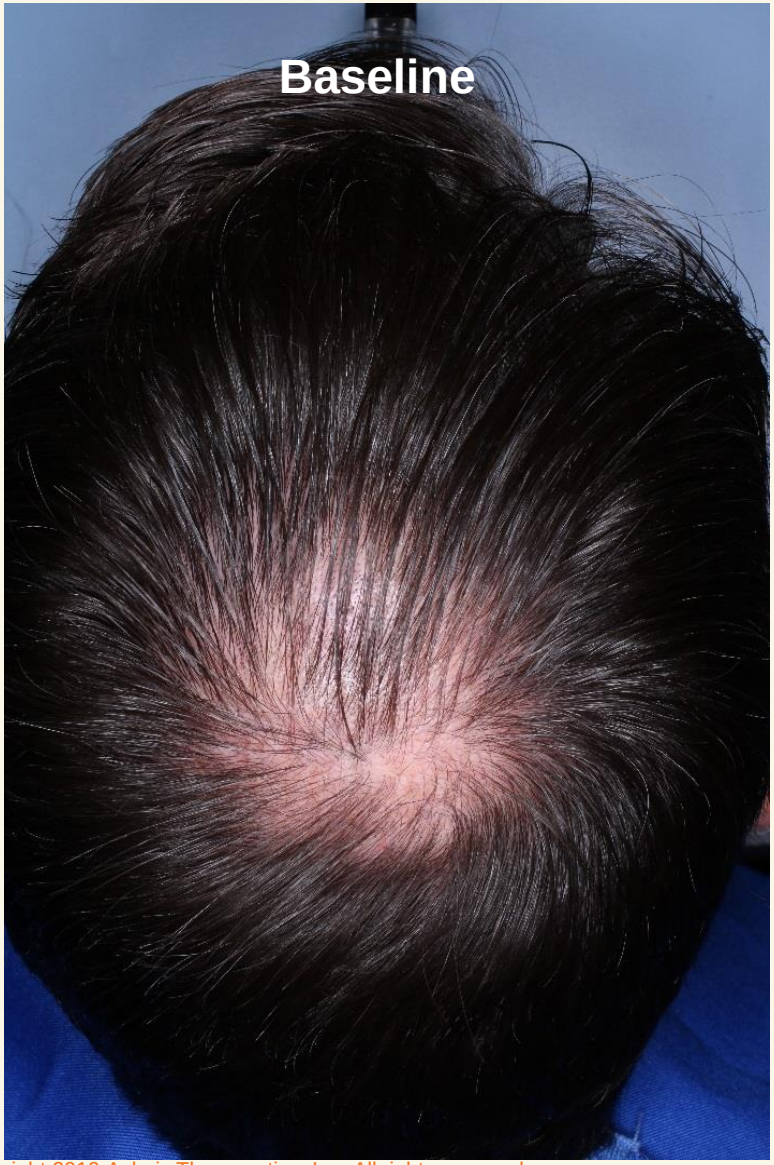
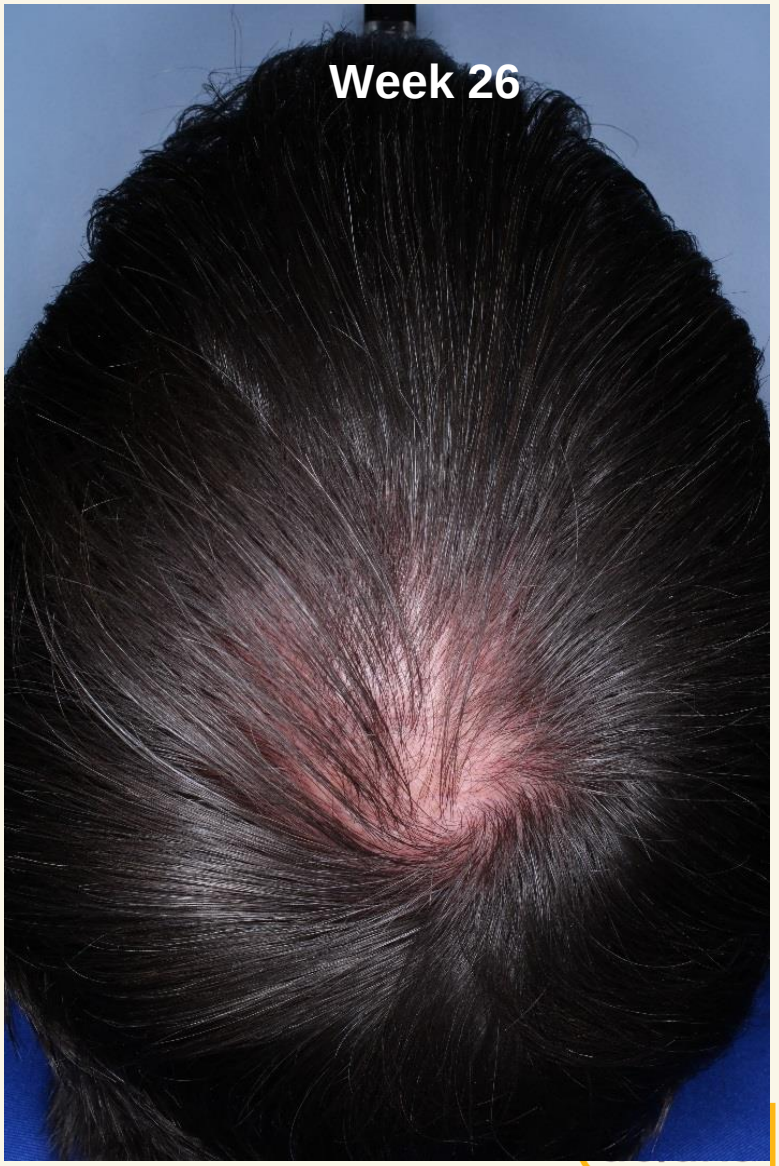
Subject 01-012 – 48 y/o Male

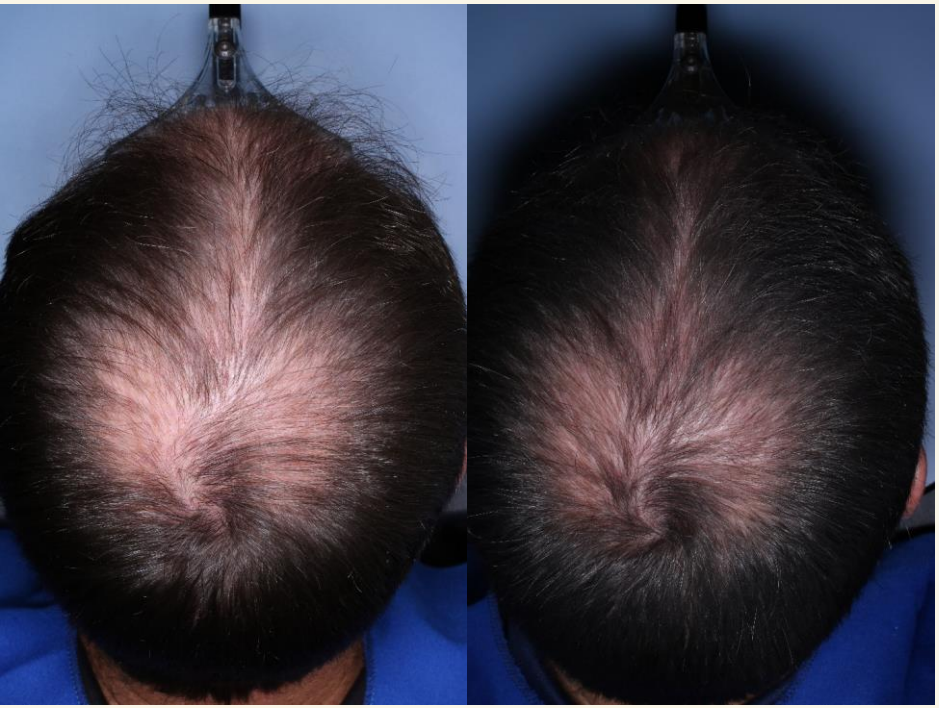
IGA	SSA	TAHC Δ
+3	+3	+11





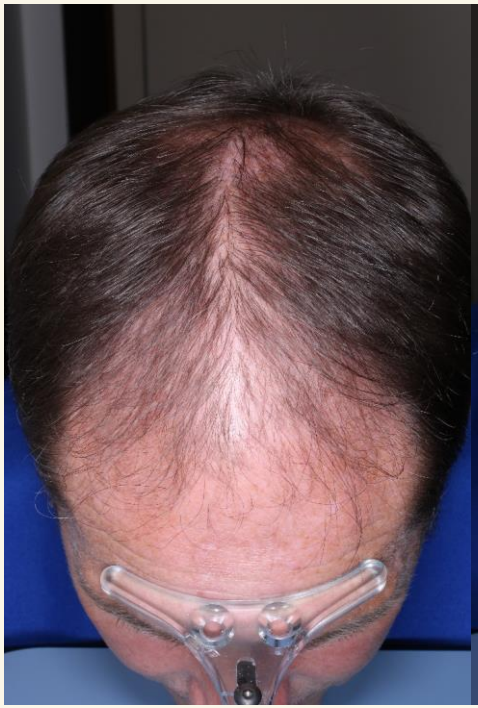
Subject 03-005 – 42 y/o Male

IGA	SSA	TAHC Δ
+1	+2	+24

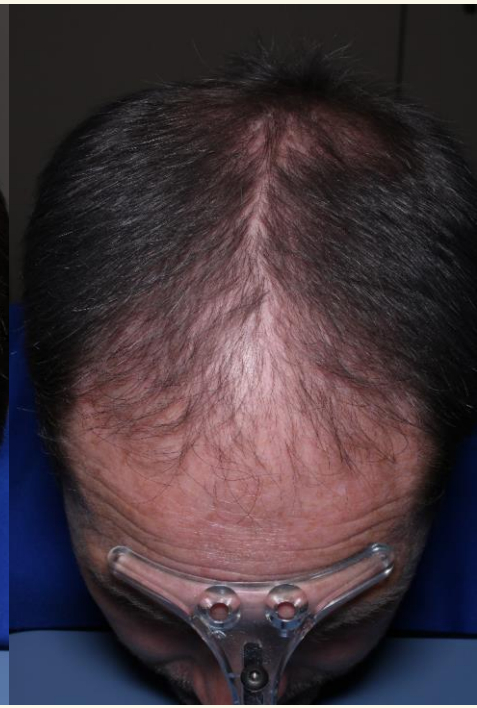


Baseline

Week 26



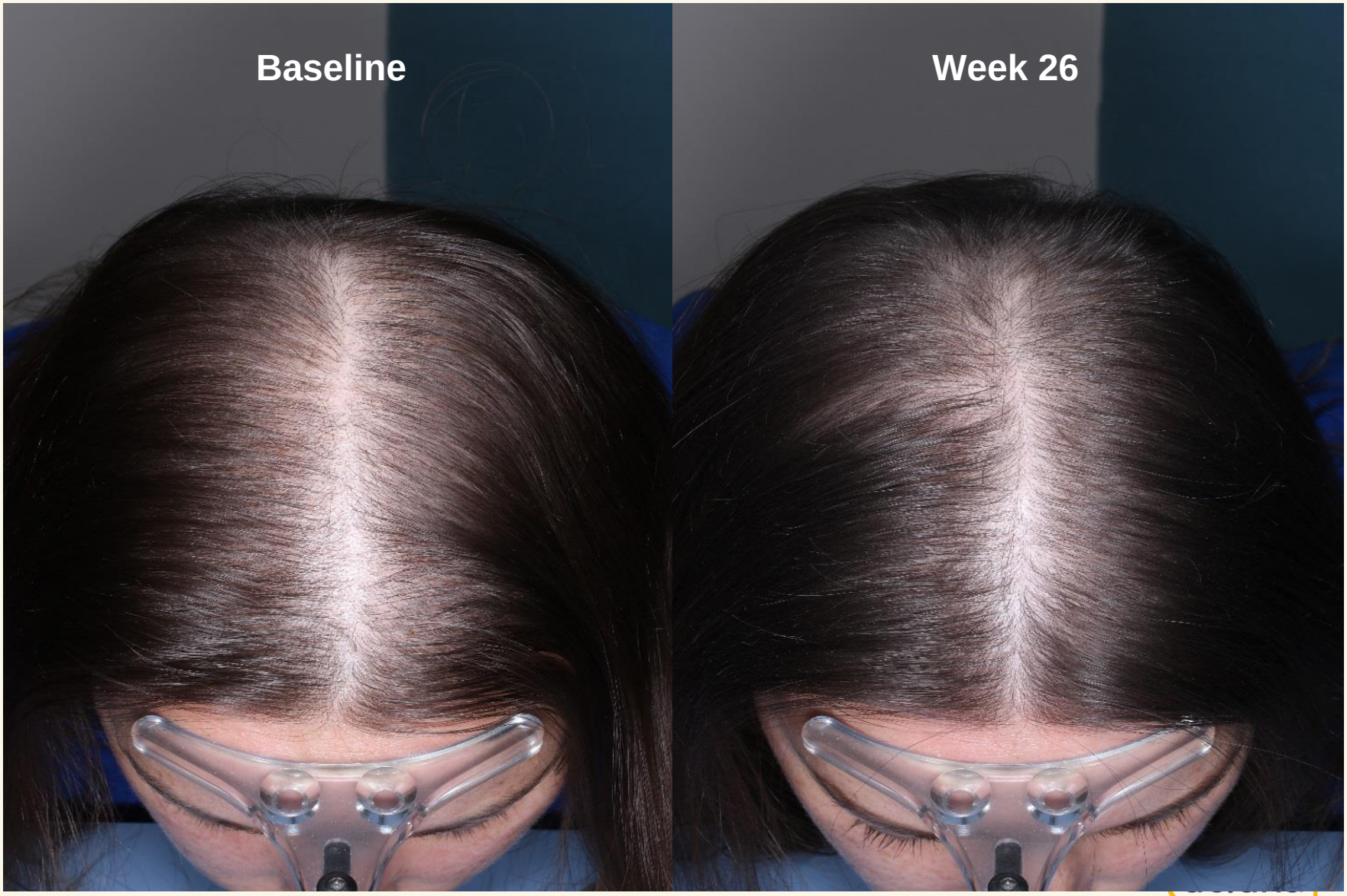
Baseline



Week 26

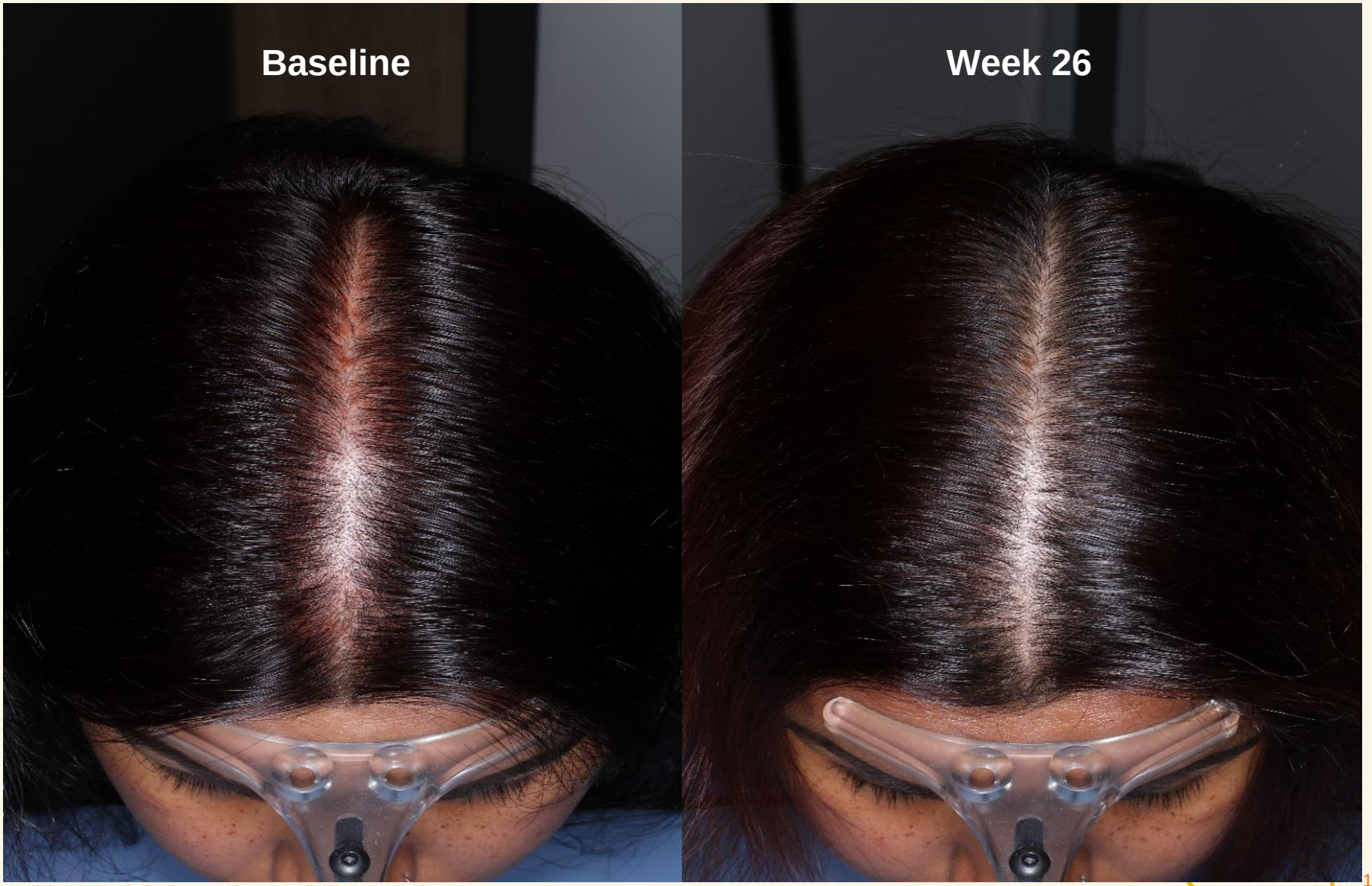
Subject 01-029 – 31 y/o Female

IGA	SSA	TAHC Δ
+1	+2	+15



Subject 02-002 – 41 y/o Female

IGA	SSA	TAHC Δ
+2	+1	+18



Safety Summary

- ATI-502 (0.46% concentration) was generally well-tolerated.
- No treatment-related serious adverse events (SAEs) reported in this study.
  - ✓ One subject had an unrelated SAE of breast cancer which led to withdrawal of study medication.
- Three additional subjects had adverse events (AEs) leading to discontinuation:
  - ✓ Alopecia assessed by the investigator as related to study medication
  - ✓ Unrelated event of herpes zoster,
  - ✓ Unrelated events of acne, constipation, amnesia, and photopsia.
- Two subjects experienced treatment-related AEs, one with folliculitis and one with pruritus.
- AEs occurring in > 1 subject were vertigo, upper respiratory infection, neck pain, and alopecia.

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Next Steps

- Design next clinical trial
  - ✓ Positive advisory board meeting with leading hair loss KOLs reinforced plan for definitive Phase 2 study
  - ✓ Double-blind, randomized, controlled Phase 2 clinical study with potentially female focus
  - ✓ Dose range with higher concentrations of ATI-502
- Market Research - assessment underway

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THANK YOU

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