BioVendor R&D®

SCCA2 & TARC

atopic dermatitis assessment tool

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General overview

Atopic dermatitis (AD) is a highly pruritic, chronic inflammatory skin disorder that often begins in childhood but can affect people of all ages. It is a non-contagious disease that tends to occur in individuals with a genetic predisposition and is often associated with other atopic conditions, such as asthma or allergic rhinitis. The clinical symptoms are not highly specific, which makes diagnosis challenging. The distribution and appearance of lesions can vary by age and severity, and there is no single test to confirm atopic dermatitis. The diagnosis of AD is based on clinical evaluation, and the main challenge lies in differentiating atopic dermatitis from other similar skin disorders, such as contact dermatitis, psoriasis, or fungal infections.

Prevalence of atopic dermatitis in Europe

- 2–10% in adults, 12–60 million individuals
- 20% in children, 22–30 million individuals
- >50% of children with AD develop asthma
- 13.9 million individuals have moderate to severe AD
- 86% report daily itching
- €15–30 billion per year in healthcare cost

According to the 2020 ETFAD/EADV Eczema Task Force, the diagnosis of atopic dermatitis is based on clinical evaluation using the Hanifin and Rajka criteria, with updated Europe-wide guidance for diagnosis and management across age groups. The Task Force recommends composite scoring tools, such as SCORing Atopic Dermatitis (SCORAD), to assess both objective and subjective symptoms and quantify disease burden. Supportive laboratory tests can provide additional value in determining disease severity and in the assessment of treatment response.

Supportive laboratory parameters

- Diagnosis and severity of atopic dermatitis: SCAA2, TARC, total IgE
- Treatment response: SCAA2, TARC

Human SCCA2 ELISA

Other name	Squamous Cell Carcinoma Antigen 2
Cat. No.	326076529
Size	1 x 96 wells
Assay type	Sandwich, capture - MAb /detection - MAb
Regulatory status	RUO
Sample type	Serum
Assay time	24 hours
Measuring range	6.23 to 200 pg/ml
Sensitivity	2 pg/ml
Specificity	100% reactivity with SCCA2, no reactivity with SCCA1
Sample volume requirement	10 µl/well, sample dilution 100x
Manufacturer	Shino Test (Japan)

Human TARC ELISA

Other name	Thymus and Activation-Regulated Chemokine
Cat. No.	RBL028R
Size	1 x 96 wells
Assay type	Sandwich, capture - MAb /detection - pAb
Regulatory status	RUO
Sample type	Serum
Assay time	3 hours
Measuring range	20 to 2000 pg/ml
Sensitivity	4 pg/ml
Specificity	No reactivity with other members of CCL protein family
Sample volume requirement	35 µl/well, sample dilution 3x
Manufacturer	BioVendor (EU)

Clinical relevance of SCCA2 and TARC

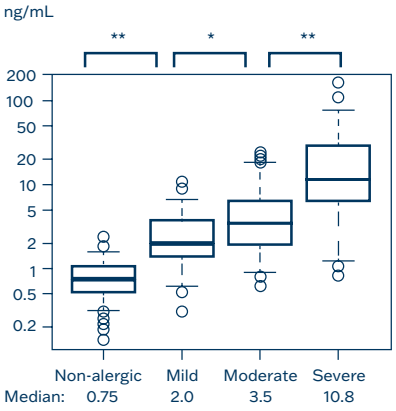
Assessing the severity of atopic dermatitis in adults or children under 15 years of age.

Reference range of serum SCAA2 (age-independent)	< 1.6 ng/mL
Mild AD	≥ 1.6 ng/mL and < 2.6 ng/mL
Moderate AD	≥ 2.6 ng/mL and < 6.0 ng/mL
Severe AD	≥ 6.0 ng/mL

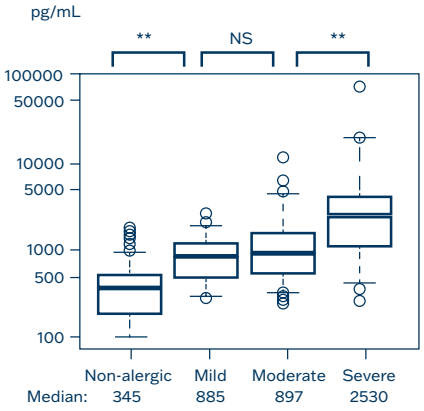
Serum TARC	Reference range
2 – 15 years of age	≥ 735 pg/mL
Over 15 years of age	≥ 510 pg/mL

Clinical Performance of SCCAA, TARC and total IgE was evaluated in samples from non-allergic patients and patients with atopic dermatitis aged 0 to 15 years. Objective-SCORAD (O-SCORAD) was used as an index of the severity, and scores of less than 15 were classified as mild, 15–40 as moderate, and 40 or more as severe.

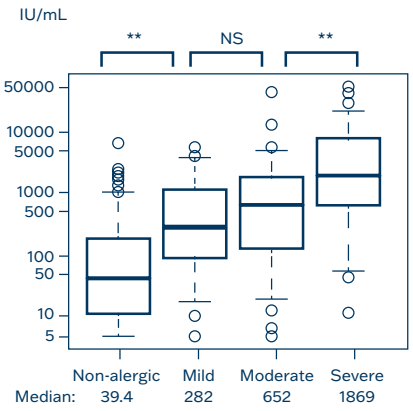
SCCA2



TARC



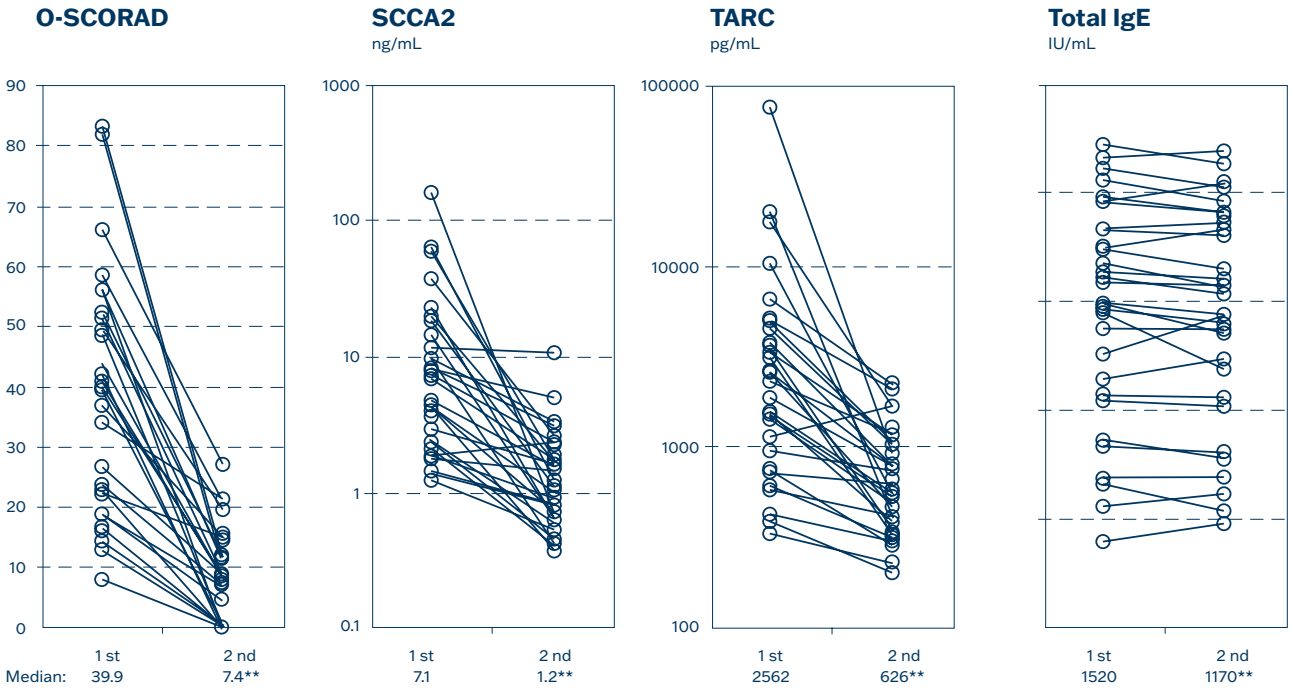
Total IgE



** p < 0.001
* p < 0.01
NS p > 0.05
(Steel-Dwass)

Response of SCCA2 and TARC to treatment

In follow-up cases (1st versus 2nd medical visit), serum SCCA2 and TARC levels decrease during the course of treatment and are significantly correlated with changes in O-SCORAD. In contrast, no significant change is observed in total IgE levels.



** p < 0.001
* p < 0.05

Related products

Product	Cat. No.	Potential use in AD
ß-Defensin 2 ELISA	IC7200	AD pathogenesis
EDN ELISA	IC6500	Marker of severity
Interleukin-18 Human ELISA	RAF143R	Marker of severity
Interleukin-22 Human ELISA	RAF058R	Monitoring treatment effects
Interleukin-23 Human ELISA	RAF060R	Predictive biomarker for AD comorbidities
Interleukin-33 Human ELISA	RAF064R	Predictive biomarker for AD comorbidities
Interleukin-8 Human ELISA	RD194558200R	Monitoring treatment effects
MMP-9 Human ELISA	RBL002R	AD pathogenesis and severity
Periostin Human ELISA	RAG019R	Monitoring treatment effects

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