

Galectin-9 is a tandem-repeat type [galectin](#) with two carbohydrate-recognition domains, and it was first identified as an eosinophil chemoattractant and activation factor.

Wienke et al., identified two proteins that highly correlate with juvenile dermatomyositis (JDM) disease activity: galectin-9 and [CXCL10](#).

They validated galectin-9 and CXCL10 as biomarkers for disease activity, assess disease-specificity and investigate their potency to predict flares.

Galectin-9 and CXCL10 were measured in serum samples of 125 unique JDM patients in three international cross-sectional cohorts and a local longitudinal cohort, by multiplex immunoassay. Disease-specificity was examined in 50 adults with (dermato)myositis and 61 patients with other systemic autoimmune diseases. RESULTS:

Galectin-9 and CXCL10 outperformed the currently used marker creatine kinase (CK) to distinguish between JDM patients with active disease and remission, both cross-sectionally and longitudinally (area ROC curve: 0.86-0.90 for galectin-9 and CXCL10, 0.66-0.68 for CK). The sensitivity and specificity were 0.84 and 0.92 for galectin-9, and 0.87 and 1.00 for CXCL10. In 10 prospectively followed patients with a flare, continuously elevated or rising biomarker levels suggested an imminent flare up to several months before symptoms, even in absence of elevated CK. Galectin-9 and CXCL10 distinguished between active disease and remission in adults with (dermato)myositis and were suited for measurement in minimally-invasive dried blood spots.

Galectin-9 and CXCL10 were validated as sensitive and reliable biomarkers for disease activity in (J)DM. Implementation of these biomarkers into clinical practice, as tools to monitor disease activity and guide treatment, might facilitate personalized treatment strategies ¹⁾.

Liu Z, Han H, He X, Li S, Wu C, Yu C, Wang S. Expression of the [galectin-9](#)-Tim-3 pathway in glioma tissues is associated with the clinical manifestations of glioma. *Oncol Lett*. 2016 Mar;11(3):1829-1834. Epub 2016 Jan 26. PubMed PMID: 26998085; PubMed Central PMCID: PMC4774531.

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Wienke J, Bellutti Enders F, Lim J, Mertens JS, van den Hoogen LL, Wijngaarde CA, Yeo JG, Meyer A, Otten HG, Fritsch-Stork RDE, Kamphuis SSM, Hoppenreijs EPAH, Armbrust W, van den Berg JM, Hissink Muller PCE, Tekstra J, Hoogendijk JE, Deakin CT, de Jager W, van Roon JAG, van der Pol WL, Nistala K, Pilkington C, de Visser M, Arkachaisri T, Radstake TRDJ, van der Kooi AJ, Nierkens S, Wedderburn LR, van Royen-Kerkhof A, van Wijk F. Galectin-9 and CXCL10 as biomarkers for disease activity in juvenile dermatomyositis: a longitudinal cohort study and multi-cohort validation. *Arthritis Rheumatol*. 2019 Mar 12. doi: 10.1002/art.40881. [Epub ahead of print] PubMed PMID: 30861625.

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