

Employment

Professor, Head of office, Associate professor

Infection Medicine (BMC)
Lund University
Lund, Sweden
2015 Sep 21 → present

Project manager

Infection and immunomodulation
Lund University
Lund, Sweden
2016 Jun 23 → present

Research outputs

Systemic rifampicin shows accretion to locally implanted hydroxyapatite particles in a rat abdominal muscle pouch model

Sebastian, S., Huang, J., Liu, Y., Collin, M., Tägil, M., Raina, D. B. & Lidgren, L., 2023, In: *Journal of Bone and Joint Infection*. 8, 1, p. 19-28

Extended local release and improved bacterial eradication by adding rifampicin to a biphasic ceramic carrier containing gentamicin or vancomycin

Sebastian, S., Tandberg, F., Liu, Y., Raina, D. B., Tägil, M., Collin, M. & Lidgren, L., 2022 Nov, In: *Bone & joint research*. 11, 11, p. 787-802 16 p.

Multiple modes of action mediate the therapeutic effect of IVIg in experimental epidermolysis bullosa acquisita

Pipi, E., Kasprick, A., Iwata, H., Goletz, S., Hundt, J. E., Sadeghi, H., Schmidt-Jiménez, L. F., Schmidt, E., Sjögren, J., Zillikens, D., Ludwig, R. J., Collin, M. & Bieber, K., 2022, In: *Journal of Investigative Dermatology*. 142, 6, p. 1552-1564.e8

Archaea in Blood Cultures: Coincidence or Coinfection?

Rasmussen, M. & Collin, M., 2021 Nov 1, In: *Clinical Infectious Diseases*. 73, 9, p. E2580-E2581

IgG Fc sialylation is regulated during the germinal center reaction upon immunization with different adjuvants

Bartsch, Y. C., Eschweiler, S., Leliavski, A., Lunding, H. B., Wagt, S., Petry, J., Lilienthal, G.-M., Rahmüller, J., de Haan, N., Hölscher, A., Erapaneedi, R., Giannou, A. D., Aly, L., Sato, R., de Neef, L. A., Winkler, A., Braumann, D., Hobusch, J., Kuhnigk, K., Krémer, V., & 19 othersSteinhaus, M., Blanchard, V., Gemoll, T., Habermann, J. K., Collin, M., Salinas, G., Manz, R. A., Fukuyama, H., Korn, T., Waisman, A., Yogev, N., Huber, S., Rabe, B., Rose-John, S., Busch, H., Berberich-Siebelt, F., Hölscher, C., Wuhrer, M. & Ehlers, M., 2020 Sep 1, In: *The Journal of Allergy and Clinical Immunology*. 146, 3, p. 652-666 15 p.

Antibody glycosylation as an immunological key in health and disease

Collin, M., 2020 Mar 20, In: *Glycobiology*. 30, 4, p. 200-201

Streptococcus pyogenes evades adaptive immunity through specific IgG glycan hydrolysis

Nägeli, A., Bratanis, E., Karlsson, C., Shannon, O., Kalluru, R., Linder, A., Malmström, J. & Collin, M., 2019 Jul 1, In: *Journal of Experimental Medicine*. 216, 7, p. 1615-1629

Cartilage-binding antibodies induce pain through immune complex-mediated activation of neurons

Bersellini Farinotti, A., Wigerblad, G., Nascimento, D., Bas, D. B., Morado Urbina, C., Nandakumar, K. S., Sandor, K., Xu, B., Abdelmoaty, S., Hunt, M. A., Ångeby Möller, K., Baharpoor, A., Sinclair, J., Jardemark, K., Lanner, J. T., Khmaladze, I., Borm, L. E., Zhang, L., Wermeling, F., Cragg, M. S., & 11 othersLengqvist, J., Chabot-Doré, A.-J., Diatchenko, L., Belfer, I., Collin, M., Kultima, K., Heyman, B., Jimenez-Andrade, J. M., Codeluppi, S., Holmdahl, R. & Svensson, C. I., 2019, In: *Journal of Experimental Medicine*. 216, 8, p. 1904-1924

Comments on letter to the editor by Faniyan et al. in response to Imported leishmaniasis in Sweden 1993-2016

Söbirk, S. K., Inghammar, M., Collin, M. & Davidsson, L., 2019, In: *Epidemiology and Infection*. 47, p. e47

Chronic active arthritis driven by macrophages without involvement of T cells: A Novel Experimental Model of Rheumatoid Arthritis

Hagert, C., Sareila, O., Kelkka, T., Nandakumar, K. S., Collin, M., Xu, B., Guérard, S., Bäcklund, J., Jalkanen, S. & Holmdahl, R., 2018 Aug, In: *Arthritis & Rheumatology*. 70, 8

Streptococcal Endo- β -N-Acetylglucosaminidase Suppresses Antibody-Mediated Inflammation In Vivo

Nandakumar, K. S., Collin, M., Happonen, K. E., Lundström, S. L., Croxford, A. M., Xu, B., Zubarev, R. A., Rowley, M. J., Blom, A. M., Kjellman, C. & Holmdahl, R., 2018 Jul 16, In: *Frontiers in Immunology*. 9, 1623.

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Sialylation of IgG antibodies inhibits IgG-mediated allergic reactions

Epp, A., Hobusch, J., Bartsch, Y. C., Petry, J., Lilienthal, G-M., Koeleman, C. A. M., Eschweiler, S., Möbs, C., Hall, A., Morris, S. C., Braumann, D., Engellenner, C., Bitterling, J., Rahmöller, J., Leliavski, A., Thurmann, R., Collin, M., Moremen, K. W., Strait, R. T., Blanchard, V., & 12 others Petersen, A., Gemoll, T., Habermann, J. K., Petersen, F., Nandy, A., Kahlert, H., Hertl, M., Wuhler, M., Pfützner, W., Jappe, U., Finkelman, F. D. & Ehlers, M., 2018, In: *Journal of Allergy and Clinical Immunology*. 141, 1, p. 399-402.e8

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Antibody Glycosylation Predicts Relapse in Autoimmune Vasculitis

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Bacterial Pathogenesis: Methods and Protocols

Nordenfelt, P. (ed.) & Collin, M. (ed.), 2017, 1 ed. Humana Press. 357 p. (Methods in Molecular Biology; vol. 1535)

BspK, a serine protease from the predatory bacterium *Bdellovibrio bacteriovorus* with utility for analysis of therapeutic antibodies

Bratanis, E., Molina, H., Nägeli, A., Collin, M. & Lood, R., 2017, In: *Applied and Environmental Microbiology*. 83, 4, e03037-16.

From greasy bad guy to superficial savior!

Collin, M., 2017, In: *Forum for Nordic Dermato-Venerology*. 22, 1, p. 17 1 p.

Three variants of the leukotoxin gene in human isolates of *Fusobacterium necrophorum* subspecies *funduliforme*

Holm, K., Collin, M., Hagelskjær-Kristensen, L., Jensen, A. & Rasmussen, M., 2017, In: *Anaerobe*. 45, p. 129-132

Toward clinical use of the IgG specific enzymes IdeS and EndoS against antibody-mediated diseases

Collin, M. & Björck, L., 2017, *Methods in Molecular Biology*. Humana Press, Vol. 1535. p. 339-351 13 p. (Methods in Molecular Biology; vol. 1535).

CP40 from *Corynebacterium pseudotuberculosis* is an endo- β -N-acetylglucosaminidase

Shadnezhad, A., Nägeli, A. & Collin, M., 2016 Nov 8, In: *BMC Microbiology*. 16, 1, 10 p.

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Shadnezhad, A., Nägeli, A., Sjögren, J., Adamczyk, B., Leo, F., Allhorn, M., Karlsson, N. G., Jensen, A. & Collin, M., 2016 Jun 1, In: *Future Microbiology*. 11, 6, p. 721-736 16 p.

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Dominant suppression of inflammation by glycan-hydrolyzed IgG [Retracted]

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Human Chemokines as Antimicrobial Peptides with Direct Parasiticidal Effect on Leishmania mexicana In Vitro.

Karlsson Söbirk, S., Mörgelin, M., Egesten, A., Bates, P., Shannon, O. & Collin, M., 2013, In: PLoS ONE. 8, 3, e58129.

The carbohydrate switch between pathogenic and immunosuppressive antigen-specific antibodies.

Collin, M. & Ehlers, M., 2013, In: Experimental Dermatology. 22, 8, p. 511-514

The protective effect of immunoglobulin in murine tuberculosis is dependent on IgG glycosylation

Olivares, N., Marquina, B., Mata-Espinoza, D., Zatarain-Barron, Z. L., Espitia Pinzon, C., Estrada, I., Parada, C., Collin, M., Rook, G. & Hernandez-Pando, R., 2013, In: Pathogens and Disease. 69, 3, p. 176-183

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Characterization of Released Polypeptides During an Interferon-γ-Dependent Antibacterial Response in Airway Epithelial Cells.

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Enzymatic autoantibody glycan hydrolysis alleviates autoimmunity against type VII collagen

Hirose, M., Vafia, K., Kalies, K., Groth, S., Westermann, J., Zillikens, D., Ludwig, R. J., Collin, M. & Schmidt, E., 2012, In: Journal of Autoimmunity. 39, 4, p. 304-314

IgG glycan hydrolysis by endoglycosidase S diminishes the proinflammatory properties of immune complexes from patients with systemic lupus erythematosus: A possible new treatment?

Lood, C., Allhorn, M., Lood, R., Gullstrand, B., Olin, A., Ronnblom, L., Truedsson, L., Collin, M. & Bengtsson, A., 2012, In: Arthritis and Rheumatism. 64, 8, p. 2698-2706

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Benkhoucha, M., Molnarfi, N., Santiago-Raber, M-L., Weber, M. S., Merkler, D., Collin, M. & Lalive, P. H., 2012, In: Journal of Neuroinflammation. 9, 209

Tolerance induction with T cell-dependent protein antigens induces regulatory sialylated IgGs

Oefner, C. M., Winkler, A., Hess, C., Lorenz, A. K., Holecska, V., Huxdorf, M., Schommartz, T., Petzold, D., Bitterling, J., Schoen, A-L., Stoehr, A. D., Van, D. V., Darcan-Nikolaisen, Y., Blanchard, V., Schmutte, I., Laumonnier, Y., Stroever, H. A., Hegazy, A. N., Eiglmeier, S., Schoen, C. T., & 13 others Mertes, M. M. M., Loddenkemper, C., Loehning, M., Koenig, P., Petersen, A., Luger, E. O., Collin, M., Koehl, J., Hutloff, A., Hamelmann, E., Berger, M., Wardemann, H. & Ehlers, M., 2012, In: Journal of Allergy and Clinical Immunology. 129, 6, p. 1647

Bacteria can help us cure autoimmune disease

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Antibacterial activity of the contact and complement systems is blocked by SIC, a protein secreted by Streptococcus pyogenes.

Frick, I-M., Shannon, O., Åkesson, P., Mörgelin, M., Collin, M., Schmidtchen, A. & Björck, L., 2011, In: Journal of Biological Chemistry. 286, p. 1331-1340

Characterization and genome sequencing of two Propionibacterium acnes phages displaying pseudolysogeny

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Cysteine proteinase SpeB from Streptococcus pyogenes - a potent modifier of immunologically important host and bacterial proteins

Nelson, D. C., Garbe, J. & Collin, M., 2011, In: Biological Chemistry. 392, 12, p. 1077-1088

Study of the IgG endoglycosidase EndoS in group A streptococcal phagocyte resistance and virulence

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The Membrane Bound LRR Lipoprotein Slr, and the Cell Wall-Anchored M1 Protein from Streptococcus pyogenes Both Interact with Type I Collagen

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Synergism between a novel chimeric lysin and oxacillin protects against infection by methicillin-resistant *Staphylococcus aureus*

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Collagen VI Is a Subepithelial Adhesive Target for Human Respiratory Tract Pathogens

Bober, M., Enochsson, C., Collin, M. & Mörgelin, M., 2010, In: *Journal of Innate Immunity*. 2, 2, p. 160-166

IgG Glycan Hydrolysis Attenuates ANCA-Mediated Glomerulonephritis

van Timmeren, M. M., van der Veen, B. S., Stegeman, C. A., Petersen, A. H., Hellmark, T., Collin, M. & Heeringa, P., 2010, In: *Journal of the American Society of Nephrology*. 21, 7, p. 1103-1114

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The IgG specific endoglycosidase EndoS inhibits both cellular and complement mediated autoimmune hemolysis.

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Kan man snacka bort representativ demokrati?

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Endoglycosidase treatment abrogates IgG arthritogenicity: Importance of IgG glycosylation in arthritis.

Kutty Selva, N., Collin, M., Olsén, A., Nimmerjahn, F., Blom, A., Ravetch, J. V. & Holmdahl, R., 2007, In: European Journal of Immunology. 37, 10, p. 2973-2982

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Low Antibody Levels against Cell Wall-Attached Proteins of *Streptococcus pyogenes* Predispose for Severe Invasive Disease.

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EndoS, a novel secreted protein from *Streptococcus pyogenes* with endoglycosidase activity on human IgG
Collin, M. & Olsén, A., 2001, In: *EMBO Journal*. 20, 12, p. 3046-3055

Identification of conditionally expressed genes in *Streptococcus pyogenes* using RNA fingerprinting
Collin, M. & Olsén, A., 2001, In: *FEMS Microbiology Letters*. 196, 2, p. 123-127

***Streptococcus pyogenes* secreted enzymes interacting with the human host**
Collin, M., 2001, BMC Biomedical Centre, Lund University. 138 p.

Generation of a mature streptococcal cysteine proteinase is dependent on cell wall-anchored M1 protein
Collin, M. & Olsén, A., 2000, In: *Molecular Microbiology*. 36, 6, p. 1306-1318

Protein H, an antiphagocytic surface protein in *Streptococcus pyogenes*
Kihlberg, B. M., Collin, M., Olsén, A. & Björck, L., 1999, In: *Infection and Immunity*. 67, 4, p. 1708-1714

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Herwald, H., Collin, M., Muller-Esterl, W. & Björck, L., 1996, In: *Journal of Experimental Medicine*. 184, 2, p. 665-673

Activities

Bacterial antibody hydrolyzing enzymes - as bacterial virulence factors and novel biotechnological tools - Eleni Bratanis
Mattias Collin (First/primary/lead supervisor)
2019 Oct 25

Leishmaniasis in Sweden - Molecular, diagnostic and epidemiological studies of the parasite *Leishmania* in a non-endemic country - Sara Karlsson Söbirk
Mattias Collin (First/primary/lead supervisor)
2019 Apr 5

Bacterial IgG modulating enzymes - Basic biology and biotechnological applications - Azadeh Shadnezhad
Mattias Collin (First/primary/lead supervisor)
2017 Feb 3

Bacterial modulation of host glycosylation – in infection, biotechnology, and therapy - Jonathan Sjögren
Mattias Collin (First/primary/lead supervisor)
2015 Mar 13

Molecular and microscopical analysis of pathogenic streptococci - studies on surface proteins interacting with human cells and extracellular matrix - Marta Bober
Mattias Collin (First/primary/lead supervisor)
2011 Nov 4

Propionibacterium acnes and its phages - Rolf Lood

Mattias Collin (First/primary/lead supervisor)

2011 Oct 7

Prizes and Distinctions

Åke Wiberg million grant recipient (2012-2014)

Collin, Mattias (Recipient), 2012

Prize for best project application and Anniversary medal in silver

Collin, Mattias (Recipient), 2009

The Florman award (Flormanska belöningen)

Collin, Mattias (Recipient), 2010

Translational Research Award

Collin, Mattias (Recipient), 2012

Projects

Enzymatic antibody glycan modifications as treatment against acute and chronic autoimmune diseases

Collin, M.

2017/01/01 → 2017/12/31

Enzymatic antibody modification on bacteremia - diagnostic, prophylactic, and therapeutic implications

Collin, M., Holm, K., Sunnerhagen, T. & Rasmussen, M.

2023/01/01 → 2026/12/31

Hygieia: strategies for prevention and treatment of infective disease - ASG, Pufendorf IAS

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2010/08/10 → 2011/08/10

Machine learning-based image analysis of antibody function in bacterial infections

Kumra Ahnlide, V., Nordenfelt, P., Heyden, A. & Collin, M.

2019/01/21 → ...

Neutralizing human B-cell derived monoclonal antibodies to SARS-CoV-2

Nordenfelt, P., Bahnan, W., Rasmussen, M., Kahn, F., Björck, L., Shannon, O., Collin, M., Malmström, J. & Kahn, R.
Science for Life Laboratory (SciLifeLab)

2020/04/08 → 2021/01/31

Streptococcal modification of antibody glycosylation during severe infections

Collin, M.

2018/01/01 → 2020/12/31