

Differential impact of IL-32 isoforms on the functions of coronary artery endothelial cells: A potential link with arterial stiffness and atherosclerosis

Rémi Bunet ^{1,2}, Marie-Hélène Roy-Cardinal ³, Hardik Ramani ^{1,2}, Aurélie Cleret-Buhot ², Madeleine Durand ^{2,4}, Carl Chartrand-Lefebvre ^{2,5}, Jean-Pierre Routy ⁶, Réjean Thomas ⁷, Benoît Trottier ⁸, Petronela Ancuta ^{1,2}, David B. Hanna⁹, Alan L. Landay ¹⁰, Guy Cloutier ^{3,5,11}, Cécile L. Tremblay ^{1,2,†,*} and Mohamed El-Far ^{2,‡,*}

¹ Département de Microbiologie, Infectiologie et Immunologie, Faculté de Médecine, Université de Montréal, Montréal, H3C 3J7, QC, Canada,

² Centre de Recherche du Centre Hospitalier de l'Université de Montréal (CRCHUM), Montréal, H2X 0A9, QC, Canada,

³ Laboratory of Biorheology and Medical Ultrasonics, Centre de Recherche du Centre Hospitalier de l'Université de Montréal (CRCHUM), Montréal, H2X 0A9, QC, Canada,

⁴ Département de Médecine, Faculté de Médecine, Université de Montréal, H3T 1J4, QC, Canada

⁵ Département de Radiologie, Radio-oncologie et Médecine Nucléaire, Faculté de Médecine, Université de Montréal, Montréal, H3C 3J7, QC, Canada,

⁶ Chronic Viral Illness Service, division of hematology, McGill University Health Centre, Montréal and Research Institute of McGill University Health Centre, Montréal, H4A 3J1, QC, Canada

⁷ Clinique médicale l'Actuel, Montréal, H2L 4P9, QC, Canada,

⁸ Centre de médecine urbaine du Quartier latin, Montréal, H2L 4E9, QC, Canada,

⁹ Department of Epidemiology and Population Health, Albert Einstein College of Medicine, Bronx, NY 10461, USA,

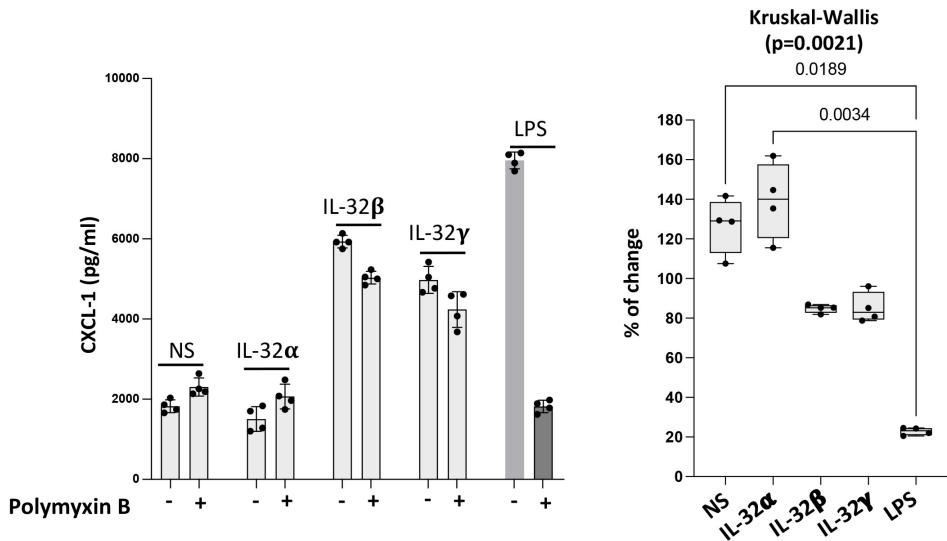
¹⁰ Department of Internal Medicine, Rush University Medical Center, Chicago, 60612, IL, United States

¹¹ Institut de génie biomédical, Université de Montréal, Montréal, H3T 1J4, QC, Canada,

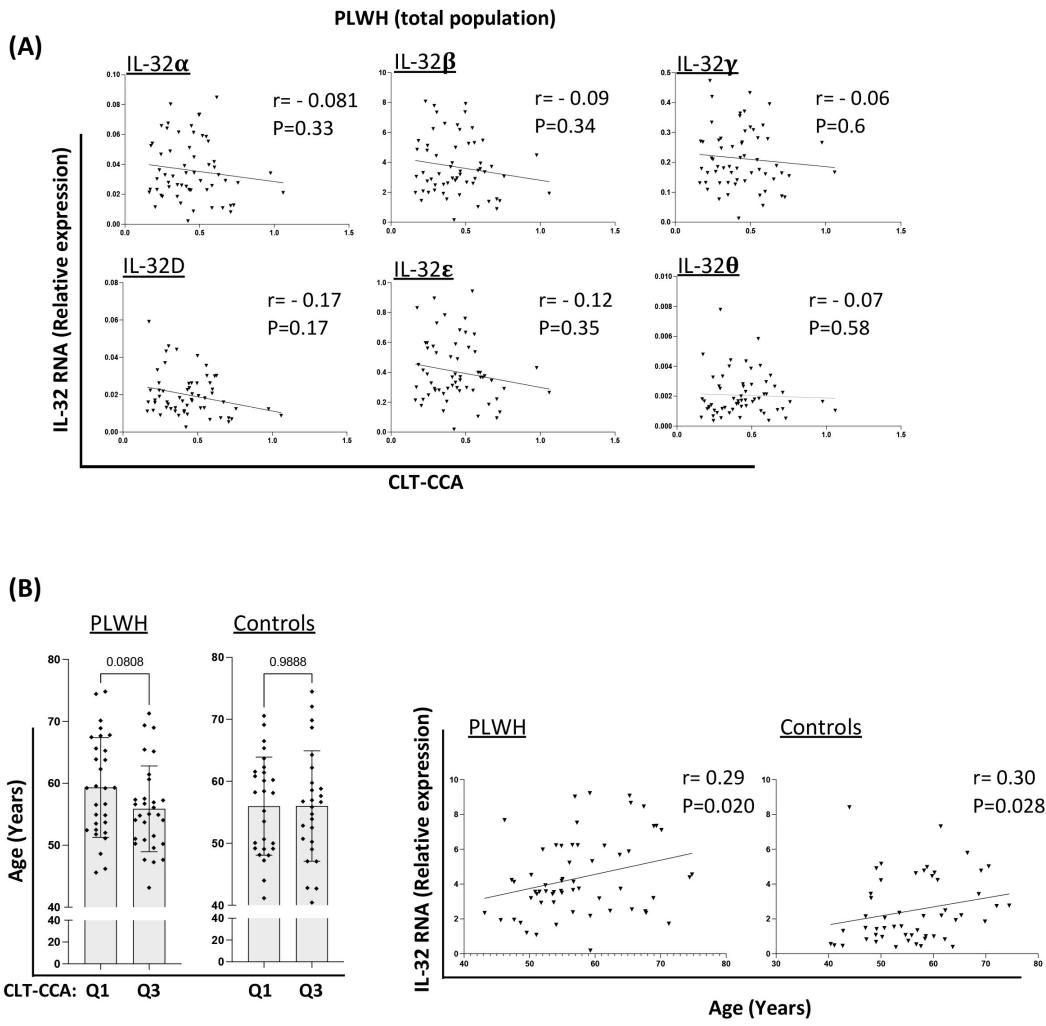
† These authors contributed equally to this work.

* Correspondence: c.tremblay@umontreal.ca (C.L.T.); mohamed.el.far.chum@ssss.gouv.qc.ca (M.E.-F.)

Supplemental materials



Supplemental Figure S1: Impact of Polymyxin B on CAEC. CXCL-1 expression by CAEC following stimulation with IL-32 isoforms (500ng/ml) or LPS (500ng/ml) in the presence or absence of Polymyxin B. Left panel: CXCL-1 levels in pg/ml. Right panel: Percentage of change (increase or decrease) in CXCL-1 expression for each condition (Non-stimulated NS, IL-32 α -, IL-32 β -, IL-32 γ - and LPS-stimulated cells) from the left panel generated by the ratio between Polymyxin B treated to untreated condition. NS: non-stimulated.



Supplemental Figure S2: **A)** Association between IL-32 expression and carotid artery wall stiffness in the total PLWH population. **B)** Age comparison within the lower (Q1) and upper (Q3) quartiles of CLT-CCA of PLWH ($n=30$ per quartile) and controls ($n=27$ for Q1 and $n=26$ for Q3), Left panels. Right panel: correlations between total IL-32RNA from PLWH ($n=60$, left panel) and controls ($n=53$, right panel) and age. Q1: First quartile, Q3: Third quartile. CLT: Cumulated lateral translation in common carotid artery.