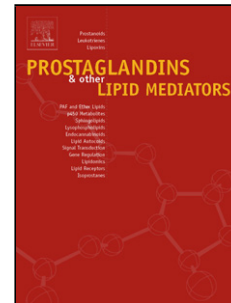


## Accepted Manuscript

Title: Targeting Cysteinyl-Leukotrienes in Abdominal Aortic Aneurysm

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PII: S1098-8823(18)30070-4  
DOI: <https://doi.org/10.1016/j.prostaglandins.2018.09.007>  
Reference: PRO 6305

To appear in: *Prostaglandins and Other Lipid Mediators*

Received date: 1-6-2018  
Revised date: 21-8-2018  
Accepted date: 20-9-2018

Please cite this article as: Araújo AC, Tang X, Haeggström JZ, Targeting Cysteinyl-Leukotrienes in Abdominal Aortic Aneurysm, *Prostaglandins and Other Lipid Mediators* (2018), <https://doi.org/10.1016/j.prostaglandins.2018.09.007>

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## *Targeting Cysteinyl-Leukotrienes in Abdominal Aortic Aneurysm*

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### **Highlights:**

- Abdominal aortic aneurysm is a life-threatening vascular disorder.
- Cys-LT and the CysLT1 are involved in abdominal aortic aneurysm development.
- Asthma associates with human abdominal aortic aneurysm and rupture.
- The anti-asthma drug montelukast may be used in abdominal aortic aneurysm.
- Safe and affordable montelukast holds promise to treat abdominal aortic aneurysm.

### **Abstract**

Abdominal aortic aneurysm (AAA) is an asymptomatic dilatation of the vessel wall exceeding the normal vessel diameter by 50%, accompanied by intramural thrombus formation. Since the aneurysm can rupture, AAA is a life-threatening vascular disease, which may be amenable to surgical repair. At present, no pharmacological therapy for AAA is available. The 5-lipoxygenase (5-LOX) pathway of arachidonic acid metabolism leads to biosynthesis of leukotrienes (LTs), potent lipid mediators with pro-inflammatory biological actions. Among the LTs, cysteinyl-leukotrienes (cys-LT) are well-recognized signaling molecules in human asthma and allergic rhinitis. However, the effects of these molecules in cardiovascular diseases have only recently been explored.

Drugs antagonizing the CysLT1 receptor, termed lukasts and typified by montelukast, are established therapeutics for clinical management of asthma. Lukasts are safe, well-tolerated drugs that can be administered during long time periods. Here we describe recent data indicating that montelukast may be used for prevention and treatment of AAA, thus representing a promising pharmacological tool for a deadly vascular disease with significant socio-economic impact.

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