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# **Lipoxins A<sub>4</sub> and B<sub>4</sub> : Comparison of Icosanoids Having Bronchoconstrictor and Vasodilator Actions but Lacking Platelet Aggregatory Activity\***

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Lipoxins A<sub>4</sub> (LxA<sub>4</sub>) and B<sub>4</sub> (LxB<sub>4</sub>), two lipoxygenase-generated icosanoids of arachidonic acid metabolism, were found to have a distinct biological profile. Both strips isolated from guinea pigs, rabbits, and rats in a concentration-dependent manner over the range 0.1—1  $\mu$ M. This bronchoconstrictor effect was not associated with release of peptide leucotrienes or thromboxane A<sub>2</sub>, nor was it blocked by lipoxygenase inhibitors or thromboxane receptor antagonists, suggesting it is a direct effect of lipoxins. However, the leucotriene D<sub>4</sub> (LTD<sub>4</sub>) receptor antagonist LY-171883 reduced the LxA<sub>4</sub> response, indicating that LTD<sub>4</sub> and LxA<sub>4</sub> may share the same receptor. LxA<sub>4</sub> and LxB<sub>4</sub> also exerted an endothelium-dependent vasorelaxation in guinea pig, rat, and, to a lesser extent, rabbit aortic vascular smooth muscle. In contrast to other vasoactive icosanoids, LxA<sub>4</sub> and LxB<sub>4</sub> failed to aggregate rat, rabbit, or guinea pig platelets or to inhibit ADP-induced aggregation. LxA<sub>4</sub> also enhanced the release of liver lysosomal labilizing action of LxA<sub>4</sub>. LxA<sub>4</sub> and LxB<sub>4</sub> share a similar biological profile. It is not clear yet whether the lipoxins could be mediators of circulatory or pulmonary disease states.

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