Allostere is a mineralocorticoid steroid hormone produced in the zona glomerulosa of the adrenal cortex. The production of aldosterone is assessed through pharmacological clinical research studies of aldosterone synthesis (CYP11B2) inhibitors, where low level detection of aldosterone is required.

Radioimmunoassay (RIA) is traditionally used to analyze aldosterone. However, RIA methods suffer from a lack of analytically selective due to the narrow reactivity of structurally similar adrenal hormones. LC-MS/MS can reduce analytical selectivity issues associated with aldosterone analysis using radioimmunoassay, with providing a tool for determining aldosterone plasma for clinical research. In this investigation, the performance of UPLC coupled to a mass spectrometer, the Waters ACQUITY UPLC Xevo TQ-S, provides separation of isobaric species. Therefore, care must be taken when developing an analytical method to account for the underlying complexity within this pathway with hundreds of steroid pathways associated with aldosterone.

Aldosterone plays a central role in the regulation of blood pressure through maintenance of the Na\(^{+}\)/K\(^{+}\) ratio in the kidney, which ultimately results in the excretion of sodium. Therefore, care must be taken when developing an analytical method to account for the underlying complexity within this pathway with hundreds of steroid pathways associated with aldosterone. Aldosterone—coupled with other hormones like cortisol—helps to regulate the amount of sodium in the body. Aldosterone is one of the main factors that contribute to hypertension, with cortisol playing a role in reducing inflammation.

Radioimmunoassay (RIA) is traditionally used to analyze aldosterone. However, RIA methods suffer from a lack of analytically selective due to the narrow reactivity of structurally similar adrenal hormones. LC-MS/MS can reduce analytical selectivity issues associated with aldosterone analysis using radioimmunoassay, with providing a tool for determining aldosterone plasma for clinical research. In this investigation, the performance of UPLC coupled to a mass spectrometer, the Waters ACQUITY UPLC Xevo TQ-S, provides separation of isobaric species. Therefore, care must be taken when developing an analytical method to account for the underlying complexity within this pathway with hundreds of steroid pathways associated with aldosterone. Aldosterone plays a central role in the regulation of blood pressure through maintenance of the Na\(^{+}\)/K\(^{+}\) ratio in the kidney, which ultimately results in the excretion of sodium. Therefore, care must be taken when developing an analytical method to account for the underlying complexity within this pathway with hundreds of steroid pathways associated with aldosterone. Aldosterone—coupled with other hormones like cortisol—helps to regulate the amount of sodium in the body. Aldosterone is one of the main factors that contribute to hypertension, with cortisol playing a role in reducing inflammation.

**METHODS**

**RESULTS**

**CONCLUSION**

©2016 Waters Corporation

To download a copy of this poster, visit www.waters.com/posters

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES

References:


