

# PATHFAST®

## Cardiac Biomarker Analyzer

### ENTRESTO™ (sacubitril/valsartan or LCZ696) and Heart Failure PATHFAST® and NT-proBNP

On February 16, 2021, the U.S. Food and Drug Administration approved an expanded indication for Entresto® (sacubitril/valsartan): to reduce the risk of cardiovascular death and hospitalization for heart failure in patients with chronic heart failure.<sup>1</sup> Benefits are most clearly evident in patients with left ventricular ejection fraction below normal.<sup>1</sup>

In 2015, PARADIGM-HF demonstrated that ENTRESTO, a combination of sacubitril and a RAS inhibitor (valsartan), was superior to a RAS inhibitor (enalapril), in reducing the risk of the combined endpoint of cardiovascular death or hospitalization for heart failure in patients with symptomatic chronic heart failure (NYHA class II-IV) and systolic dysfunction (left ventricular ejection fraction  $\leq 40\%$ ).<sup>1</sup> Additionally, ENTRESTO decreased plasma NT-proBNP (not a neprilysin substrate) and increased plasma BNP (a neprilysin substrate) and urine cGMP compared with enalapril.<sup>1</sup>

In 2019, PARAGON-HF demonstrated that ENTRESTO had a numerical reduction in the rate of the composite endpoint of total (first and recurrent) HF hospitalizations and CV death in patients with symptomatic heart failure with left ventricular ejection fraction  $\geq 45\%$ , and structural heart disease.<sup>1</sup>

The contrasting effects of ENTRESTO on the 2 types of natriuretic peptides represents an important finding, because the levels of the 2 peptides characteristically parallel each other during the course of heart failure. However, because BNP (but not NTproBNP) is a substrate for neprilysin, levels of BNP will reflect the action of the drug, whereas levels of NTproBNP will reflect the effects of the drug on the heart.<sup>2</sup>

PATHFAST NT-proBNP is an assay for quantitative measurement of NT-proBNP in the format of a chemiluminescent enzyme immunoassay. NT-proBNP can be accurately run and quantified on the PATHFAST analyzer within 17 minutes. Samples can be whole blood or plasma (EDTA or Heparin).<sup>3</sup>



#### References:

1. <https://www.novartis.us/sites/www.novartis.us/files/entresto.pdf>
2. Circulation January 6, 2015; DOI: 10.1161/CIRCULATIONAHA.114.013748
3. PF1061-KUS PATHFAST NTproBNP Ver 5

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