

HOW CAN sST2 MAKE A DIFFERENCE FOR YOUR PATIENT

sST2 is a powerful prognostic marker for Heart Failure patients' outcome

sST2 helps for risk stratifying your post MI patients

sST2 helps you predicting therapy efficacy, particularly for antifibrotic drugs like Mineralocorticoid receptor antagonist (MRA) and neprilysin inhibitor.

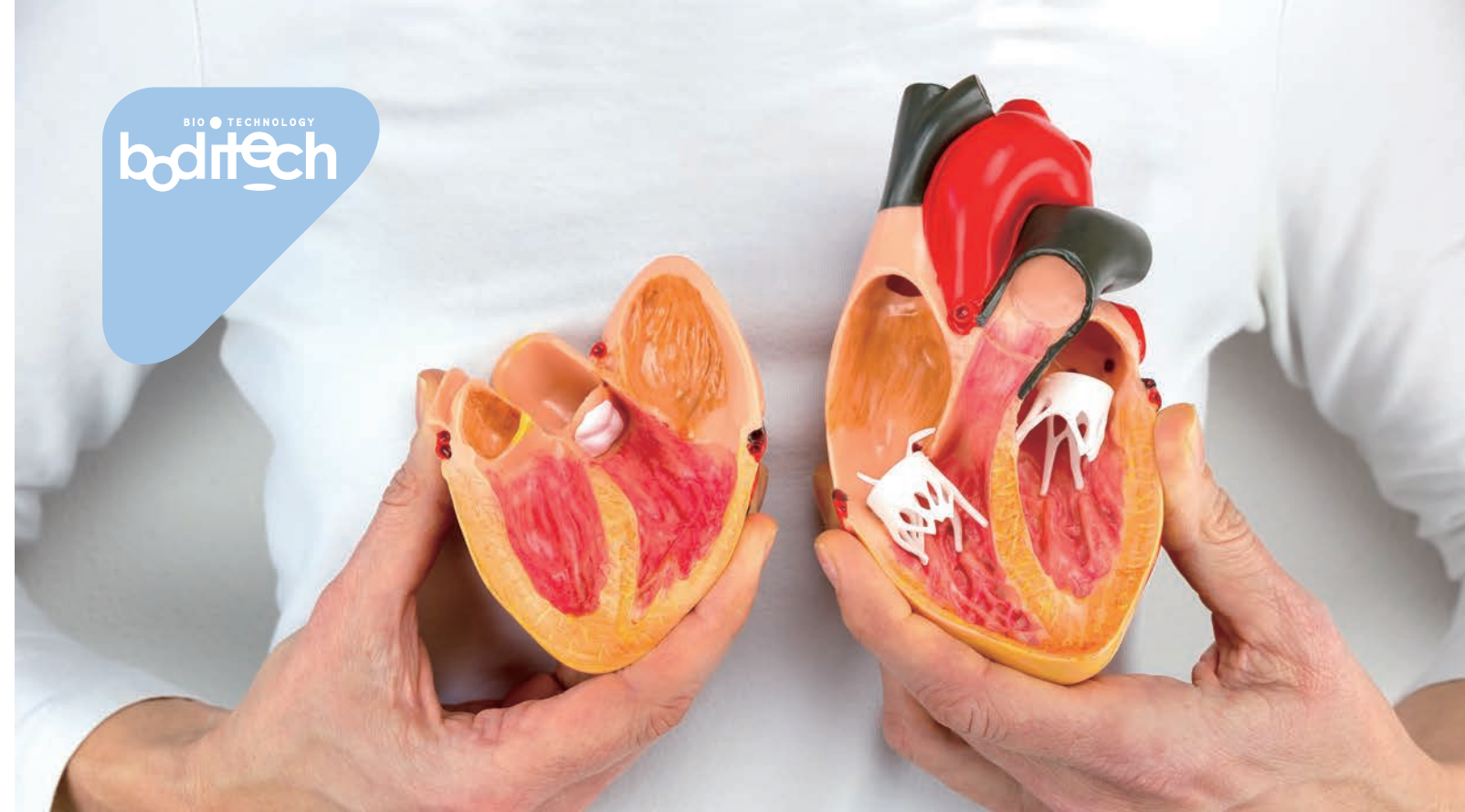
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What is sST2?

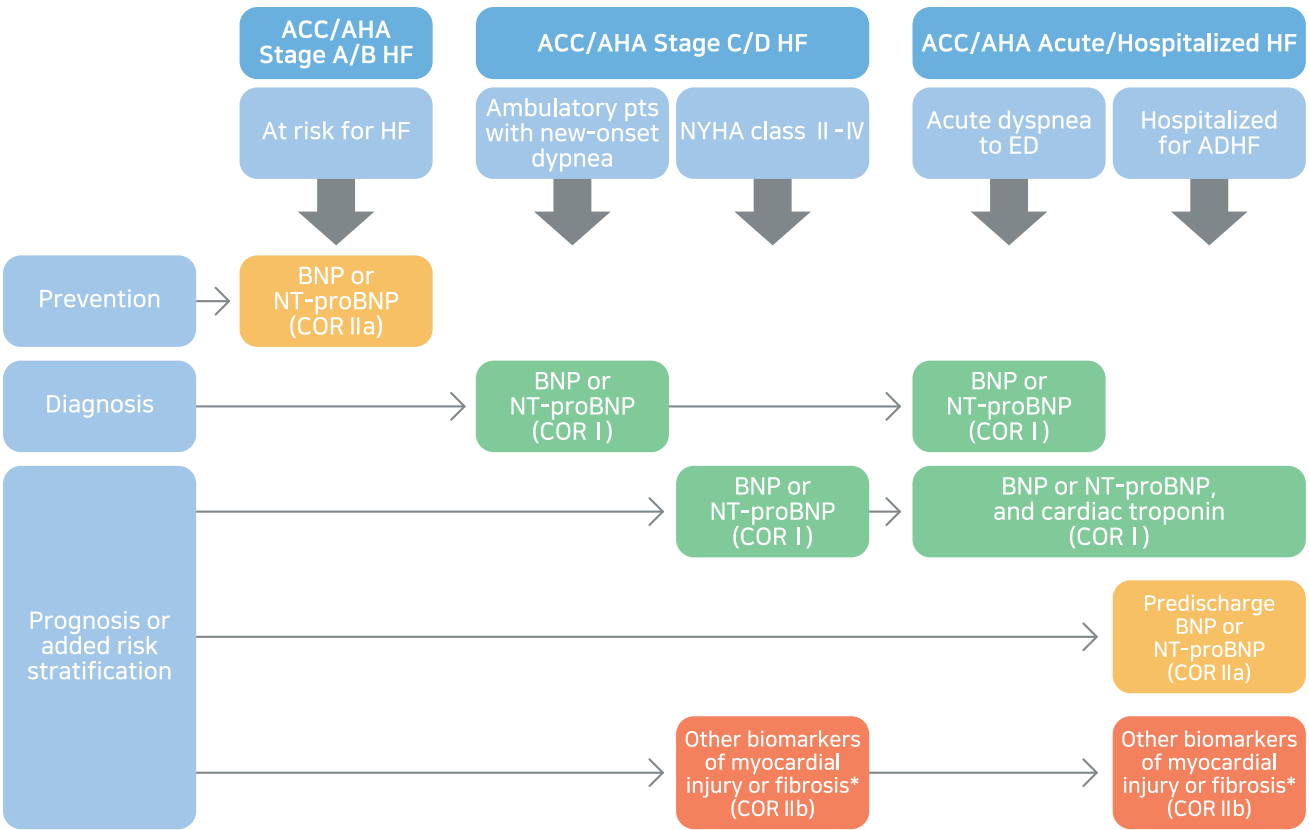
sST2 is a member of the interleukin-1 (IL-1) receptor family and it can be found in a transmembrane form (ST2 ligand or ST2L) and a soluble, circulating form (sST2). IL-33 when bound with ST2L protects the myocardium against hypertrophy and cardiac fibrosis. However Soluble ST2 acts as a decoy receptor for IL-33 and prevents the IL-33/ST2L interaction.¹

Value of sST2 analysis

Higher concentration of soluble ST2 is associated with increased myocardial fibrosis, adverse cardiac remodeling, and worse cardiovascular outcomes.^{1,2} Studies shows that the changes in sST2 level during follow up patients admitted with acute HF represent a strong, independent predictor of the composite endpoint of all-cause mortality or readmission for HF over at least 1 year follow-up.^{1,3,4}

Guidelines on ST2

ST2 is currently recognized as a valuable adjunct for prognosis and monitoring of heart failure patients. It was included in the 2017 update of the American College of Cardiology (ACC)/ American Heart Association(AHA) HF guidelines as part of the biomarkers of myocardial injury or fibrosis:⁷



The ACC and AHA recognize in this guidelines that biomarkers of myocardial fibrosis are predictive of hospitalization and death in patients with HF and also are additive to natriuretic peptide biomarkers levels in their prognostic value.^{7,8} Further indicating that, a combination of biomarkers may ultimately prove to be more informative than single biomarkers.⁹

When is the usage of sST2 indicated?

1. Before discharging a HF patient to risk assessment of death and hospitalization
2. Serial testing during clinical therapy. This practice provides meaningful data to guide the therapy.¹
3. Helpful in assessing the fibrosis status of a patient in case of cardiac strain, inflammation, myocardial necrosis with remodeling and other pathogenic pathways¹⁰.

It is meaningful to note that studies show that sST2 is not effected by age, sex and body mass index⁵. Furthermore sST2 levels are independent of renal function¹⁰.

sST2 and other biomarkers

Biomarkers have become an integral part of medicine, aiding in the diagnosis and treatment of numerous conditions. Natriuretic peptides, troponin, ST2 and procalcitonin, all provide significant information for the doctor to know which is the best treatment for a patient presenting at the hospital with chest pain, shortness of breath, sign of infections, etcetera. Biomarkers also can help decide on appropriateness of discharge and follow up frequency. All these parameters work together to provide the most vivid picture for the clinician to consider and adapt the therapy to the single patient.^{5,6}

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	Cat N	Reaction time	Sample type	Measuring range
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- Infectious items such as ichroma CRP and ichroma PCT
- ichroma NT-proBNP
- ichroma D-Dimer for thrombosis
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