

Active Recombinant *S. aureus* IMPDH Protein

Cat. No. IMPDH-10S Lot. No. (See product label)

SPECIFICATION

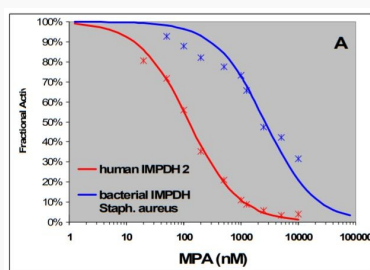
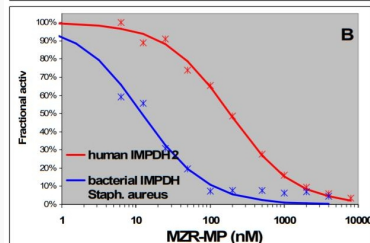
Product Overview	IMPDH is a cloned protein of 53 kDa cloned by PCR amplification of <i>guaB</i> gene of <i>Staphylococcus aureus</i> and expressed in <i>E. coli</i> .
Species	<i>S. aureus</i>
Source	<i>E. coli</i>
Description	Today, antibiotic resistance is one of the world's most important public health problems. There is an urgent need for new antibiotic compounds acting on new targets. One attractive strategy for developing new antibiotics consists in inhibiting bacterial IMPDH, an enzyme involved in the de novo synthesis of purine nucleotides, and therefore, necessary for bacterial cell growth and division. Mammalian and bacterial IMPDHs are known to have significantly different kinetic properties and inhibitor sensitivities.
Bio-activity	Specific Activity: ≥ 0.3 unit/mg protein.
Molecular Mass	53 kDa
Purity	Controlled by 12% AA SDS-PAGE.
Unit Definition	One unit of IMPDH converts 1.0 μ mole of IMP and NAD to XMP and NADH per minute at pH 8 at 37 centigrade.

GENE INFORMATION

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Official Symbol	IMPDH																																				
Synonyms	EC 1.1.1.205; inosine 5'-monophosphate dehydrogenase; IMP dehydrogenase; IMPDH																																				
SDS-PAGE																																					
IMPDH inhibition	A <table border="1"><caption>Approximate data for Graph A</caption><thead><tr><th>MPA (nM)</th><th>human IMPDH 2 (%)</th><th>bacterial IMPDH Staph. aureus (%)</th></tr></thead><tbody><tr><td>1</td><td>100</td><td>100</td></tr><tr><td>10</td><td>80</td><td>100</td></tr><tr><td>100</td><td>20</td><td>100</td></tr><tr><td>1000</td><td>0</td><td>80</td></tr><tr><td>10000</td><td>0</td><td>0</td></tr></tbody></table> B <table border="1"><caption>Approximate data for Graph B</caption><thead><tr><th>MZR-MP (nM)</th><th>human IMPDH2 (%)</th><th>bacterial IMPDH Staph. aureus (%)</th></tr></thead><tbody><tr><td>1</td><td>100</td><td>100</td></tr><tr><td>10</td><td>100</td><td>60</td></tr><tr><td>100</td><td>100</td><td>0</td></tr><tr><td>1000</td><td>20</td><td>0</td></tr><tr><td>10000</td><td>0</td><td>0</td></tr></tbody></table>	MPA (nM)	human IMPDH 2 (%)	bacterial IMPDH Staph. aureus (%)	1	100	100	10	80	100	100	20	100	1000	0	80	10000	0	0	MZR-MP (nM)	human IMPDH2 (%)	bacterial IMPDH Staph. aureus (%)	1	100	100	10	100	60	100	100	0	1000	20	0	10000	0	0
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Effect of MPA (A) and mizoribine monophosphate (B) on human recombinant IMPDH II (red curve) and bacterial recombinant IMPDH of *Staphylococcus aureus*. (blue curve) Enzymatic assays performed in duplicate are carried out at 37 centigrade in 0.1M KH₂PO₄ buffer pH 8.0 in the presence of 1mM DTT, 200μM NAD, 200μM IMP, 60nM IMPDH II or 95nM IMPDH *S.aureus*. Reaction is followed in an iEMS Reader MF (Labsystems) microtiter plate reader at 340nm.

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