

Sulfazyme™ PaS



E. coli expressed arylsulfatase (2 mg/mL) from *Pseudomonas aeruginosa*

Specifications and Guidelines

Recommended reaction set up for cortisol 21-sulfate hydrolysis:

(Consult table for recommended volumes)

- Add MilliQ water to urine samples.
- Add 1 M Tris-HCl, pH 8.0 Buffer.
- Add internal standard or additional MilliQ water.
- Add Sulfazyme PaS and mix gently.
- **DO NOT VORTEX.**
- Incubate at 37°C for 4 hours.

Small Volume Hydrolysis Reaction Conditions	No enzyme (urine blank)	Sulfazyme™ only	B. pi β-GUS only	Sulfazyme™ and β-GUS
	μL	μL	μL	μL
Urine	100	100	100	100
Sulfazyme™ (PaS, DS, or β-AS)	0	20	0	20
β-glucuronidase (B. pi β-glucuronidase variant)	0	0	20	20
Sulfazyme™ Buffer (1.0 M Tris-HCl pH8)	20	20	20	20
Internal Standard (ISTD, or use MilliQ water)	20	20	20	20
MilliQ Water	40	20	20	0
Total Volume (μL)	180	180	180	180

Content and Storage Guidelines:

Enzyme Solution:

Enzyme solution is stable at 2-8 °C for at least 6 months after receipt. Original enzyme solution is formulated for long-term storage. Diluting the enzyme could negatively impact its shelf life. Do NOT exceed 3 freeze-thaw cycles.

Product Sterility:

IMCS products undergo strict quality control to ensure product sterility. The product can become contaminated if mishandled. Follow aseptic technique to avoid contamination.

Sulfazyme Hydrolysis vs. other sulfatases¹:

Sulfated Compound (100 μM sulfated compound at 37 °C)	Sulfazyme™ PaS	Other Sulfatases				
		PaS	HpS	HrS	PvS	KpS
<i>p</i> -nitrophenyl sulfate	7	7	6	5	3	2
estrone/estradiol 3-sulfate	7	7	5	3	2	0
tapentadol sulfate	6	no data	no data	no data	no data	no data
cortisol 21-sulfate	5	no data	no data	no data	no data	no data
nandrolone 17-β-sulfate	3	3	1	0	0	0
boldenone 17-β-sulfate	2	2	2	0	0	0
testosterone 17-β-sulfate	2	2	1	1	0	0

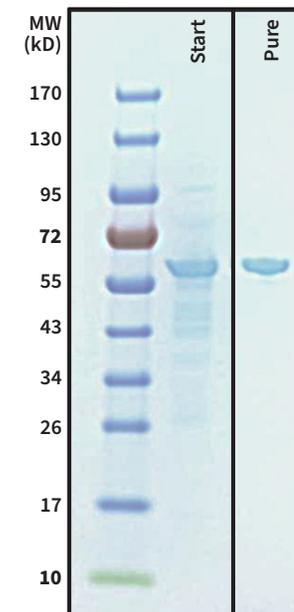
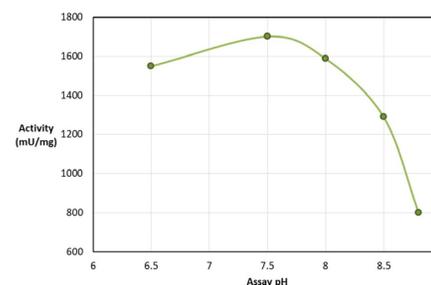
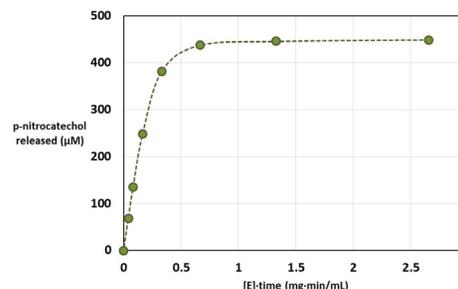
Activity in μmol product/min-mg enzyme

Sulfatase activity is represented on a logarithmic scale, with:

0	no detectable activity
1	0.005-0.05
2	0.05-0.5
3	0.5-5
4	5-50
5	50-500
6	500-5,000
7	5,000-50,000

PaS	<i>Pseudomonas aeruginosa</i> Sulfatase
HpS	<i>Helix pomatia</i> Sulfatase
HrS	<i>Haliotis rufescens</i> Sulfatase
PvS	<i>Patella vulgata</i> Sulfatase
KpS	<i>Klebsiella pneumoniae</i> Sulfatase

Sulfazyme Activity and Purity:



Contact and Support:

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Certificate of Analysis and Safety Data Sheets are available under “resources” at www.imcstips.com.

Product Warranty & Satisfaction Guarantee

IMCS warrants that this product conforms to the information contained in this publication at the time of the quality test date. **For R&D use only. Not for drug, household, or other use.**

This product is covered by one or more patents, pending patents, trademarks and/or copyrights owned or controlled by IMCS Inc.

¹Stevenson BJ, Waller CC, Ma P, Li K, Cawley AT, Ollis DL, and MD McLeod (2015) *Pseudomonas aeruginosa* arylsulfatase: a purified enzyme for the mild hydrolysis of steroid sulfates. *Drug Test. and Anal.* **7**, 903-911.