

# GMD

## Homo sapiens:

```
>AAC13553.1 GDP-mannose 4,6 dehydratase [Homo sapiens]
MAHAPARCPSA[RGSGDGE]GKPRNVALITGITGQDGSYLAEFLLLEKGYEVHGIIVRRSSSFNTGRIEHLKYNPQAHIEGNMKLHYGDLTDSTCLVKIINEVKPTEIYNLGAQ
SHVKISFDLAEYTADVGVGTLRLLDVAVKTCGLINSVKFYQASTSELYGKVQEIIPQKETTPFYPRSPYGAAKLYAYWIVVNFREAYNLFAVNGILFNHESPRRGANFVTRK
ISRSVAKIYLGQLECFSLGNLDAKRDWGHAKDYVEAMWMLQNDEPEDFVIATGEVHSVREFVEKSFHLHIGKTIWEGKNENEVGRCKETGKVHVTVDLKYRPTDEVDFLQ
GDCTKAKQKLNWKPRVAFDELVREMVDVDELMLRNTNPA
```

## Pongo abelii:

```
>XP_002816391.1 GDP-mannose 4,6 dehydratase [Pongo abelii]
MAHAPARCPSA[RGSGDGE]GKPRNVALITGITGQDGSYLAEFLLLEKGYEVHGIIVRRSSSFNTGRIEHLKYNPQAHIEGNMKLHYGDLTDSTCLVKIINEVKPTEIYNLGAQ
SHVKISFDLAEYTADVGVGTLRLLDVAVKTCGLINSVKFYQASTSELYGKVQEIIPQKETTPFYPRSPYGAAKLYAYWIVVNFREAYNLFAVNGILFNHESPRRGANFVTRK
ISRSVAKIYLGQLECFSLGNLDAKRDWGHAKDYVEAMWMLQNDEPEDFVIATGEVHSVREFVEKSFHLHIGKTIWEGKNENEVGRCKETGKVHVTVDLKYRPTDEVDFLQ
GDCTKAKQKLNWKPRVAFDELVREMVDVDELMLRNTNPA
```

## Mus musculus:

```
>NP_666153.1 GDP-mannose 4,6 dehydratase [Mus musculus]
MAQAPAKCPSYPGSGDGEKGKLRKVALITGITGQDGSYLAEFLLLEKGYEVHGIIVRRSSSFNTGRIEHLKYNPQAHIEGNMKLHYGDLTDSTCLVKIINEVKPTEIYNLGAQ
SHVKISFDLAEYTADVGVGTLRLLDVAVKTCGLINSVKFYQASTSELYGKVQEIIPQKETTPFYPRSPYGAAKLYAYWIVVNFREAYNLFAVNGILFNHESPRRGANFVTRK
ISRSVAKIYLGQLECFSLGNLDAKRDWGHAKDYVEAMWMLQNDEPEDFVIATGEVHSVREFVEKSFHIGKTIWEGKNENEVGRCKETGKVHVTVDLKYRPTDEVDFLQ
GDSCSAQQKLNWKPRVAFDELVREMVDVDELMLRNTNPA
```

## Gallus gallus:

```
>XP_015137673.1 GDP-mannose 4,6 dehydratase isoform X1 [Gallus gallus]
MGDKKVALITGITGQDGSYLAEFLLLEKGYEVHGIIVRRSSSFNTGRIEHLKYNPQAHIEGNMKLHYGDLTDSTCLVKIINEVKPNEIYNLGAQSHVKISFDLAEYTADVGV
GTLRLLDVAVKTCGLINSVKFYQASTSELYGKVQEIIPQKETTPFYPRSPYGAAKLYAYWIVVNFREAYNLFAVNGILFNHESPRRGANFVTRKISRSVAKIHLGQMDSFSLG
NLDKRDWGHARDYVEAMWMLQTDDEPEDFVIATGEVHSVREFVEKSFKHIGKTIWEGKNENEVGRCKETGKIHVTVNHKYRPTDEVDFLQGDCTKARQKLNWKPRVTFD
ELVREMVDVDELMLRNTNPA
```

## Xenopus laevis:

```
>NP_001085613.1 GDP-mannose 4,6-dehydratase S homeolog [Xenopus laevis]
MAQNQGDCCSPNSNTGKPRKVALITGITGQDGSYLAEFLLLEKGYEVHGIIVRRSSSFNTGRIEHLKYNPQAHIEGNMKLHYGDLTDSTCLVKIINEVKPTEIYNLGAQSHV
KISFDLAEYTADVGLGTLRLLDVAVKTCGLINTVKFYQASTSELYGKVQEIIPQKETTPFYPRSPYGAAKLYAYWIVVNFREAYNLFAVNGILFNHESPRRGANFVTRKISR
SVAKIHFGQMESFSLGNLDAKRDWGHAKDYVEAMWMLQTDDEPEDFVISTGEVHSVREFVEKSFKHIGKTIWEGKNENEVGRCKETGKIHVTVDLKYRPTDEVDFLQGD
SKAKNKLGIWPKVSFDELVKEMVEADIKLMEANTNPA
```

## Salmo salar:

```
>NP_001134845.1 GDP-mannose 4,6 dehydratase [Salmo salar]
MAQCTEPSTSTGANGELKKPRKVAITGITGQDGSYLAEFLLLEKGYEVHGIIVRRSSSFNTGRIEHLKYNPQTHTEGNMKLHYGDLTDSTCLVKIINQVKPTEIYNLGAQSH
VKISFELAEYTANVDGVGTLRLLDVAVKTCGLTNSVKFYQASTSELYGKVQEIIPQKETTPFYPRSPYGAAKLYAYWIVVNFREAYNLFAVNGILFNHESPRRGANFVTRKISR
SVAKIHGLQLESFSLGNLDSKRDWGHAKDYVEAMWMLQEQEPELDVIATGEVHSVREFVEKSFKHVKGKTIWEGKKNENEVGRCKETGKIHVTVDSKYRPTDEVDFLQGD
STKALTGLGWKAKITFEELVKEMVDADIHLMKNNPNA
```

## Petromyzon marinus:

```
>XP_032813332.1 GDP-mannose 4,6 dehydratase [Petromyzon marinus]
MASSSSSP[PEGPGPE]ERGAEGSTAEEGAETGAETGAEGGEERGAEGVGGSSEGGVGGTRGGFVDLEKGAQAVVDASPAERNGERKVALITGITGQDGSYLAEFLL
LEKGYEVHGIIVRRSSSFNTGRIEHLKYNPATHQEGSMKLHYGDLTDSSCLVKIISAVRPSIYNLGAQSHVKISFDLAEYTANVDGVGTLRLLDVAVTCLADRVRFYQAS
TSELYGKVQEIIPQSESTPFYPRSPYGAAKLYAYWIVVNFREAYGMYACNGILFNHESPRRGSNFVTRKISRVAKIHLGQLDCFSLGNLDARRDWGHARDYIEAMWMLQQ
PEPDDFVIATGEVHSVREFVERAFRCVGRSIVWEGSGLQEVGRCQETGEVHVVRVDAKYYRPTDEVDFLQGDCKARAKLGWATRVTFEELVQEMVSADMELMKKNPNA
```

## Branchiostoma belcheri:

```
>XP_019629718.1 PREDICTED: GDP-mannose 4,6 dehydratase-like isoform X1 [Branchiostoma belcheri]
MAEKRPAAEFEDTKEGNGPRRTRKVALITGISGQDGSYLAEFLLIDKGYVVHGIIRRASTFNTGRIEHLKYNPFGHFEGDNFHLHYGDMTDSTCLVKIITEVQPDIEYNLAA
QSHVKVSFDLAEYTADVGVGLRLMDAIRTTGLVSKVKFYQASTSEMYGLQVEVPQKETTPFYPRSPYGAAKLYAYWVVVNYREAYNMFACNGILFNHESPRRGETFVTR
KITRGVAKILLGQQDDIVLGNLDSQRDWGHAKDYIRAMWMLQHQPDPEDFVISTGTVHSVREFVVASFKHIGVDIIEWEGKGLKEVGKDKATGTVVRVRVSQKYRPTDEVDFL
QGDSTKAKKILGWEPSSVSDFMVKEMVDSIDIQLMKSHPLA
```

## Drosophila melanogaster:

```
>NP_608888.2 GDP-mannose 4,6-dehydratase [Drosophila melanogaster]
MLNTRLIAMSTSDGAPETKKQRPSSSSNGSKDQNGTEAGAEGDSRDKVALITGITGQDGSYLAEFLLKKDYEVHGIIRRASTFNTTRIEHLYADPKAHKGGRMKLHYGDMT
DSSSLVKIINMVKPTEIYNLAAQSHVKVSFDLSEYTAEDVAVGTLRLDAIRTCGMEKNVRFYQASTSELYGKVVEPTQNEQTFFYPRSPYACAKMYGFWIVINYREAYNM
YACNGILFNHESPRRGANFVTRKITRSVAKIYHKQMEYFELGNLDSKRDWGHASDYVEAMWMLQRESPSDYVIATGETHSVREFVEAAFKHIDREITWKGKGVDEVGVEN
GTGIVRVIRNPKYFRPTEVDLLQGDASKANRELNWTPKVTFVELSDMMKADIELMRKNPIA
```

### **Hydra vulgaris:**

>XP\_002157707.2 PREDICTED: GDP-mannose 4,6 dehydratase-like [Hydra vulgaris]  
MSSSTNTRKVALITGITGQDGSYLCEYLLEKGYEVHGIIRRSSSFNTGRIQHLYKDKAGHIGGNMHLHYGDLTDSSCLLNIVSQTRPTEIYNLAAQSHVKVSFDLAEYTAD  
ADAMGTLRLLEAVKICNLIGEVRFYQASTSELYGKVHEIPQKETTPFHPRSPYGVAKLYGYWIVTNYREAYGLHASNGILFNHESPRRGETFVTRKITRAVAKIHLGLQDE  
LVLGNIDSVRDWGHAKDYVEAMWMLMQQESADDYVIATNETHTVREFVEKAFSLVNVKIRWEGKGANEVGFDDISNKIRVRISPKYYRPAEVEYLGQDPSKAEKVLGWKRK  
VSFDELVKEMVEADIQLMKTNPEA

### **Nematostella vectensis:**

>XP\_001622549.1 GDP-mannose 4,6 dehydratase [Nematostella vectensis]  
MAEASEDQRKVALITGITGQDGSYLAEFLLNKGQVHGIARRSSSFNTGRIEHLIYENCYTHMGGAMKTHYGDLDSTNLVKIISEVQPTIYNLGAMSHVKVSFELAEYTA  
DVDAVGVLRLDLAICTGLANKVKFYQASTSELYGLVQEVQPTEKTPFYPRSPYGAAKLYGYWIVVNYREAYNMFACNGILFNHESPRRGETFVTRKITRAVAKIHLGLQK  
ELRLGNLDSKRWDGHAKDYVEAMWMLMQQDKPEDFVIATGETHSVREFVEKSFHVGTIIVWQKDEKEIGVDKATNKVLRVDPKYYRPAEVELLLGCAKKAEEKLGWKP  
KIKFEALVKEMVESDLQLMKNNPTA

### **Amphimedon queenslandica:**

>XP\_003384422.1 PREDICTED: GDP-mannose 4,6 dehydratase 2-like [Amphimedon queenslandica]  
MASGNGALPERINRSSDETEKVAMITGITGQDGSYLAELLLLEKGYKVHGIIRRSSSFNTGRIKHLYSNPALHEGGGLLHYGDLTDSSCLVKLVSEIRPTEIYNLAAQSH  
VKLSFDMSEYTADVNGVGTIRLLDAIRTCGLEKKVKFYQASTSELYGKVQEIPTTEKTPFYPRSPYAAKLYGYWVVVNYREAYDMFACNGILFNHESPRRGENFVTRKVT  
RSVAQVHLGHRESFSLGNLGSQRDWDGHAKDYVKAMWMLMQQDKPDDFVIATNKTHSVKKLVELAFKEVGLTISWKGEGLDEVGVDQNDIVRVTVNPKYYRPTVDLQGNP  
AKAKAILGWEPKIEFEDLVKEMVASDIKLLSADPTA

[illegible]

AAC13553.1[H.sapiens]	RSVAKIYLGQLECFSLGNLDAKRDWGHAKDYVEAMWLMLQNDEPEDFVIATGEVHSVREF	284
XP_002816391.1[P.abelii]	RSVAKIYLGQLECFSLGNLDAKRDWGHAKDYVEAMWLMLQNDEPEDFVIATGEVHSVREF	284
NP_666153.1[M.musculus]	RSVAKIYLGQLECFSLGNLDAKRDWGHAKDYVEAMWLMLQNDEPEDFVIATGEVHSVREF *.***:. . : ***.: ***** **:.***:** * **.*. *.**:	284
XP_003384422.1[A.queenslandica]	VELAFKEVGTLTISWKGEGLDEVGVDDQ-NDIVRVTVNPKYYRPTVEVDFLQGNPAKAKAII LG	341
NP_608888.2[D.melanogaster]	VEAAFKHIDREITWKGKGVDVEGVNGTGIVRVIRINPKYFRPTEVDLLQGDAQSKANREL N	367
XP_002157707.2[H.vulgaris]	WEKAFSLNVVKIRWEGKGANEVGFDDISNKIRVRISPCKYYRPAEVEYLQGDPSKAEEKVL G	329
XP_019629718.1[B.belcheri]	VVASFKHIGVDIIWEGKGLKEVGKDKATGTVRVRVSQKYRRPTVEVDFLQGDSTKAKKI LG	345
XP_001622549.1[N.vectensis]	VEKSFAHVGTETIVWQGGKDEKEIGVDKATNKVLVRVPDKYYRPAEVELLLGCAKAEKELG	330
XP_032813332.1[P.marinus]	VERAFRCVGRSIVWEGSGLQEVGRCQETGEVHVVRVDKAYYRPTVEVDFLQGDSCSAKAKLG	412
NP_001134845.1[S.salar]	VEKSPKHIGKTIVWEGKGDENEVGRCKETGVIHVKVDSKYYRPTVEVDFLQGDCTKAKIKLG	342
NP_001085613.1[X.laevis]	VEKSFKHIKGTITVWEGKNENEVGRCKETGNIHVKVDLKYYRPTVEVDFLQGDSCSAKKNLG	341
XP_015137673.1[G.gallus]	VEKSFKHIGKTITVWEGKNENEVGRCKETGKIHVTVNHKYYRPTVEVDFLQGDCTKARQKLN	325
AAC13553.1[H.sapiens]	VEKSFHLHGKTITVWEGKNENEVGRCKETGKVHVTVIDLKYYRPTVEVDFLQGDCTKAKQKLN	344
XP_002816391.1[P.abelii]	VEKSFLHIGKTITVWEGKNENEVGRCKETGKVHVTVIDLKYYRPTVEVDFLQGDCTKAKQKLN	344
NP_666153.1[M.musculus]	VEKSFMIHIGKTITVWEGKNENEVGRCKETGKVHVTVIDLKYYRPTVEVDFLQGDSCSAQQKLN * **.***.***.***.***.***.***.***.***.***.***.***.***.***.***.***.	344
XP_003384422.1[A.queenslandica]	WEPKIEFDLVKEMVASDIKLLSDAPTA	369
NP_608888.2[D.melanogaster]	WTPKVTFFVELVSDMMKADIELMRKNPI A	395
XP_002157707.2[H.vulgaris]	WKRKVSFDELVKEMEADIQLMKTNP EA	357
XP_019629718.1[B.belcheri]	WEPVSFDEMVKEMVDSIDIQLMKSHPL A	373
XP_001622549.1[N.vectensis]	WKPKIKFEALVKEMVESDILQLMKNNP TA	358
XP_032813332.1[P.marinus]	WATRVTFEELVQEMVSADMELMKKNP NA	440
NP_001134845.1[S.salar]	WAKITIFEELVKEMVDADIHLMKNNP NA	370
NP_001085613.1[X.laevis]	WIPKVSFDELVKEMEADIKLMTNP NA	369
XP_015137673.1[G.gallus]	WKPRVTFDELVREMVDADVELMRSNP NA	353
AAC13553.1[H.sapiens]	WKPRVAFDELVREMVDHADVELMRTNP NA	372
XP_002816391.1[P.abelii]	WKPRVAFDELVREMVDHADVELMRTNP NA	372
NP_666153.1[M.musculus]	WKPRVAFDELVREMVDADVELMRTNP NA * *: * **: * **: * **: * **: *	372